

MAINVIEW® for IMS Online IPSM Reference Manual

Version 3.3

March 2002



Copyright © 1997–2002 BMC Software, Inc., as an unpublished work. All rights reserved.

BMC Software, the BMC Software logos, and all other BMC Software product or service names are registered trademarks or trademarks of BMC Software, Inc. IBM and DB2 are registered trademarks of International Business Machines Corp. All other registered trademarks or trademarks belong to their respective companies.

THE USE AND CONTENTS OF THIS DOCUMENTATION ARE GOVERNED BY THE SOFTWARE LICENSE AGREEMENT ENCLOSED AT THE BACK OF THIS DOCUMENTATION.

Restricted Rights Legend

U.S. GOVERNMENT RESTRICTED RIGHTS. UNPUBLISHED–RIGHTS RESERVED UNDER THE COPYRIGHT LAWS OF THE UNITED STATES. Use, duplication, or disclosure by the U.S. Government is subject to restrictions set forth in FAR Section 52.227-14 Alt. III (g)(3), FAR Section 52.227-19, DFARS 252.227-7014 (b), or DFARS 227.7202, as amended from time to time. Send any contract notices to Contractor/Manufacturer:

BMC Software, Inc.
2101 CityWest Blvd.
Houston TX 77042-2827
USA

Contacting BMC Software

You can access the BMC Software Web site at <http://www.bmc.com>. From this Web site, you can obtain general information about the company, its products, special events, and career opportunities. For a complete list of all BMC Software offices and locations, go to <http://www.bmc.com/corporate/offices.html>.

USA and Canada

Address BMC Software, Inc.
2101 CityWest Blvd.
Houston TX 77042-2827

Telephone 713 918 8800 or
800 841 2031

Fax 713 918 8000

Outside USA and Canada

Telephone (01) 713 918 8800

Fax (01) 713 918 8000

Customer Support

You can obtain technical support by using the Support page on the BMC Software Web site or by contacting Customer Support by telephone or e-mail. To expedite your inquiry, please see “Before Contacting BMC Software,” below.

Support Web Site

You can obtain technical support from BMC Software 24 hours a day, seven days a week by accessing the technical support Web site at <http://www.bmc.com/support.html>. From this site, you can

- read overviews about support services and programs that BMC Software offers
- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support via Telephone or E-mail

In the USA and Canada, if you need technical support and do not have access to the Web, call 800 537 1813. Outside the USA and Canada, please contact your local support center for assistance. To find telephone and e-mail contact information for the BMC Software support center that services your location, refer to the Contact Customer Support section of the Support page on the BMC Software Web site at www.bmc.com/support.html.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that a technical support analyst can begin working on your problem immediately:

- product information
 - product name
 - product version (release number)
 - license number and password (trial or permanent)
- operating-system and environment information
 - machine type
 - operating system type, version, and service pack or program temporary fix (PTF)
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or PTF
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

Contents

How to Use This Book	xxi
<hr/>	
Part 1. Introducing IMSplex System Manager (IPSM)	1
Chapter 1. How IPSM Can Work for You	3
Benefits of Using IPSM	4
How IPSM Works with MAINVIEW for IMS	12
Chapter 2. IPSM Interface	13
Capabilities	13
Navigation	14
Key Functions	15
Online Help	15
View Naming Conventions	15
Selecting a Starting Point	16
Chapter 3. Getting Started with Menus	17
IMS Easy and Fast Menus	17
IMS Easy Menu (EZIMS)	18
IMS Sysplex Easy Menu (EZISSI)	19
IMS Fast Menu (EZIFAST)	20
IMS Object Easy Menus	21
Example: Using an Object Easy Menu to Solve a Problem	21
<hr/>	
Part 2. Optimizing System Performance	23
Chapter 4. Managing IMS Workflow Performance	27
Using Workflow Views to Analyze Performance	29
Is IMS Resource Usage Too High?	31
Are Regions Available for Processing?	32
Are Any Transaction Classes Being Delayed?	34
Hyperlinking for Further Information	36
Which Transactions Are Not Getting Scheduled?	37
Are BALGs Being Serviced Efficiently?	39
Is OS/390 Affecting IMS Performance?	41
Views for Workflow Management – Reference Section	43
BALG Views	44
IBGSUMR View – EMH Message Processing	44
Class Activity Views	45
ICLSUMR View – Class Occupancy	46
IMS Activity Views	47
IMSDTLGR View – IMS Processing and Resource Usage	48
IMS Sysplex Activity Views	49
IMSPLXR View – IMS Sysplex Performance	50
Region Occupancy Views	51
IRGOCCR View – Region Occupancy	52
Transaction Processing Views	52
ITRSUMR – Transaction Queue Status	53

Chapter 5. Controlling Transaction Response Time and Delays	55
Analyzing Response Time Problems	57
Where Are Delays Occurring?	57
Viewing Transaction Delays	58
Which Events Are Contributing to Response Time?	59
View Transaction Processing Events	59
View a List of Completed Transaction Traces	60
Views for Transaction Delay Analysis	63
Transaction Delays	64
IDLTR – Transaction Delays	65
IDLTRIO – I/O Delays by Transaction	66
DLTRLH – Latch Delays by Latch	67
IDLTRLK – Lock Delays by Transaction	68
IDLTROT – Other Delays by Transaction	69
IDLTRPL – Pool Delays by Transaction	70
Database I/O Delays	71
IDLDB – I/O Delays by Database	71
IDLDBC – Database I/O Delays by Class	72
IDLDBD – Database I/O Delays by Data Set	72
IDLDBI – Database I/O Delays by IMS	73
IDLDBP – Database I/O Delays by PSB	73
IDLDBTR – Database I/O Delays by Transaction	74
IDLDBV – Database I/O Delays by Volume	74
Data Set I/O Delays	75
IDLDD – I/O Delays by Data Set	75
IDLDDC – Data Set I/O Delays by Class	76
IDLDDI – Data Set I/O Delays by IMS	76
IDLDDP – Data Set I/O Delays by PSB	77
IDLDDTR – Data Set I/O Delays by Transaction	77
IDLDDV – Data Set I/O Delays by Volume	78
Volume I/O Delays	79
IDLVL – I/O Delays by Volume	79
IDLVLC – Volume I/O Delays by Class	80
IDLVLDB – Volume I/O Delays by Database	80
IDLVLDD – Volume I/O Delays by Data Set	81
IDLVLI – Volume I/O Delays by IMS	81
IDLVLP – Volume I/O Delays by PSB	82
IDLVLTR – Volume I/O Delays by Transaction	82
Lock Delays	83
IDLLK – Lock Delays	83
IDLLKC – Lock Delays by Class	84
IDLLKI – Lock Delays by IMS	84
IDLLKP – Lock Delays by PSB	85
IDLLKTR – Lock Delays by Transaction	85
Latch Delays	86
IDLLH – Latch Delays	86
IDLLHC – Latch Delays by Class	87
IDLLHI – Latch Delays by IMS	87
IDLLHP – Latch Delays by PSB	88
IDLLHTR – Latch Delays by Transaction	88

Views for Transaction Response Analysis	89
IMS Processing Events	90
IFCTR – Processing Events by Transaction	91
IFCTR2 – DB2 by Transaction	92
IFCTRA – Application by Transaction	93
IFCTRD – DL/I by Transaction	94
IFCTRI – DL/I Calls by Transaction	95
IFCTRP – Sync Point by Transaction	96
IFCTRQ – Input Queue by Transaction	97
IFCTRR – ROLS by Transaction	98
IFCTRS – Scheduling by Transaction	99
Chapter 6. Examining a User Application	101
Views for Application Performance Analysis	103
Transaction Trace Views	103
ITALIST – List of Transaction Trace Data Sets	104
ITALISTD – Trace Data Set Detail	105
ITAQUERY – Select Trace Data	106
ITASUM – Trace Entries	107
ITASUMZ – Trace Entries Summarized by Transaction	108
Chapter 7. Monitoring IMS Workloads and Resources	109
IMON – Target Monitor Summary	110
ISERV – Active Monitors	110
IMAREAZ – Target by Area Monitor Summary	111
IMWARN – Monitors in Warning	111
MAINVIEW for IMS Monitors	112
IMS Workload Monitors	113
DB2 MPP and IFP Activity	113
Fast Path MPP and IFP Activity	114
Global Region Calls	114
MPP and IFP Elapsed Timing	115
MPP and IFP Transactions	115
IMS Resource Monitors	116
IMS MFS	116
Input Queue	117
Message Queue	118
MSC Links	119
Output Queue	120
IMS Scheduling	121
IMS Dependent Regions	122
IMS Database	123
IMS Internals	124
IMS Interaction with OS/390	126
IRLM	127
Chapter 8. Creating IMS Workload Definitions	129
Elements of a Workload Definition	129
Workload and Composite Names	129
Service-Level Objectives	129
Monitoring Time Range	129
Target ID and System ID	129
Workload Resource Fields	129
Planning IMS Workload Definitions	130

Establishing Workload Conventions	130
Workload Names	130
Composite Names	130
Defining Workload Service-Level Objectives	130
Identifying Critical Workload Monitoring Periods	131
Creating a New Workload Definition	131
Accessing the IWKLDDEF View	131
Opening the Add IMS Workload Definition Dialog Box	132
Assigning the New Workload Definition Settings	133
Workload and Composite Names	133
Target and System IDs	133
Description	133
Monitored IMS Resources	133
Response Time and Percent of Transactions Fields	134
Include Queuing	134
Saving and Installing a New Workload Definition	134
Commands in the IWKLDDEF View and the IMS Workload Definition Dialog Boxes . . .	135
Maintaining Workload Definitions	136
Changing a Workload Definition	136
Deleting and Recovering Workload Definitions	137

Part 3. Solving Realtime Problems 139

Chapter 9. Monitoring Region Activity	141
Accessing the Region Views	142
Region Activity Summary View	144
Region Activity Detail View	146
Region Activity DL/I View	148
Region Activity Fast Path View	149
Region Object Easy Menu	150
Chapter 10. Resolving N-Way Data Sharing Resource Contention	151
Accessing the IRLM Lock Views	152
Analyzing Lock Problems	152
Region Lock Summary View	153
Region Lock List View	155
Region Lock Wait List View	157
Resource Lock Summary View	158
Resource Lock List View	160
Resource Lock Wait List View	162
Chapter 11. Managing Terminal and User Status	163
Managing Terminal and User Status	164
Accessing Information about IMS Users	164
Identifying IMS Users	164
Solving User-Reported Problems	165
Taking Action	166
Identification of IMS Users in Sysplex Environments	166
Accessing the Terminal and User Status Views	167
Communication Activity and Status View	168
Communication Activity and Status Detail View	171
LTERM Status View	173
Node Line/PTERM Status View	175
Communications Menu	176

Accessing the User Status Views	177
User Information View	178
User Structure Status View	180
User Structure Timestamp View	182
User Related Menu	183
Chapter 12. Monitoring OTMA Clients and Servers	185
Accessing the OTMA Views	186
OTMA Client and Server Summary View	187
OTMA Group TPIPE Summary View	188
OTMA TPIPE Message Summary View	189
OTMA Message View	190
OTMA Message Detail View	192

Part 4. Managing IMS Operations..... 193

Chapter 13. Managing Fast Path DEDB Areas	195
Accessing the Fast Path DEDB Area Views.....	196
Fast Path DEDB Area Overview View.....	197
Fast Path DEDB Area Detail View.....	198
Fast Path DEDB Area Statistics View	199
Fast Path DEDB Area Status View.....	200
Fast Path DEDB Area Object Easy Menu	201
Chapter 14. Managing Databases	203
Accessing the Database Views	204
Database Overview View	205
Database Detail View	207
Database Type Summary View.....	208
Database Status Summary View.....	209
Database Object Easy Menu.....	210
Chapter 15. Managing Application Programs	211
Accessing the Program Views	212
Program Object Easy Menu	213
Program Overview View	214
Program Type/Status Count View	215
Program Count by Type View	216
Chapter 16. Cross-Referencing IMS Resources	217
Accessing the Cross-Reference Views	218
Assessing the Impact of Actions against IMS Resources	219
Taking a Database Offline	219
Solving Failure to Take Database Offline	219
Taking a Program Offline	219
Solving Program Failure at Startup.....	220
Cross-Reference All Records View	221
Program Cross-Reference Summary View.....	222
Program-to-Database Cross-Reference View.....	223
Program-to-Transaction Cross-Reference View.....	225
Database Cross-Reference Summary View	227
Database-to-Program Cross-Reference View.....	228
Database-to-Transaction Cross-Reference View	230

Transaction Cross-Reference Summary View	232
Transaction-to-Program Cross-Reference View	233
Transaction-to-Database/Resource Availability Cross-Reference View	235
 Chapter 17. Managing IMS Database Activity	237
Accessing the IMS Database Activity Views	239
Analyzing a Data Sharing Group.	239
Analyzing an Individual IMS	240
Database Activity Detail View – Data Sharing Group Level	241
Database Activity View – IMS System Level	243
Database Activity Detail View.	245
Database Activity View – Logical (PCB) Level	248
Database I/O Activity View – Physical Database Level	250
Database I/O Activity View – Database/Volume Level.	252
Database I/O Activity View – Volume Level.	254
Database Activity Detail View – VSAM Buffer Pool Level	256
Database Activity Detail View – OSAM Buffer Pool Level	258
Database Activity View – VSAM Buffer Pool Level	260
Database Activity View – OSAM Buffer Pool Level	262
 Chapter 18. Managing Shared Message Queues	265
Accessing the CQS Information Views	266
Shared Message Queue Data Collection	266
Shared Queues Group IMS Structure View.	267
Shared Message Queue Information View	268
Shared Message Queue Detail View	270
Messages by Structure View	271
Messages by Structure with Message Ages View	272
Messages by Queue Type View	273
Messages by Queue Type with Message Ages View.	274
Input Messages by Queue Name View	275
Input Messages by Queue Name with Message Ages View	276
Output Messages by Queue Name View	277
Output Messages by Queue Name with Message Ages View	278
Messages by IMS Owner ID	279
Queue Menu.	281

Part 5. Managing IPSM 283

 Chapter 19. Setting Target Samplers	285
ISAMP – Sampler Administration	285
ISAMPD – Sampler Administration Detail	287
Controlling Sampler Defaults	288
 Chapter 20. Controlling Samplers	289
ISAMPOP – Sampler Operations Administration	289
ISAMPOPD – Sampler Operations Administration Detail	290
 Chapter 21. Controlling Shared Message Queue Data Collection	291
CQS Information Views with Message Age Fields.	291
Non-Workflow Views with Message Count Fields	292
Workflow Views with Message Count Fields	292

Chapter 22. Securing IPSM Resources	293
SERDEF – Security Resource Definitions	293
SERDEFE – Security Resource Definition Detail	294

Chapter 23. Viewing a List of BMC Software IMS Products	295
Accessing the Product Views	295
BMC Software Products Summary View	296
BMC Software Products Detail View	297

Part 6. Glossary and Index	299
---	-----

Glossary	301
-----------------------	-----

Index	313
--------------------	-----

Figures

1.	Overview of IPSM	5
2.	Using IPSM to Optimize System Performance	7
3.	Using IPSM to Solve Realtime Problems	9
4.	Using IPSM to Manage IMS Operations	11
5.	IMS Easy Menu (EZIMS)	18
6.	IMS Sysplex Easy Menu (EZISSI)	19
7.	IMS Fast Menu (EZIFAST)	20
8.	Sample Region Occupancy View (IRGOCC)	21
9.	Sample IMS Object Easy Menu (IRGMO)	22
10.	Analyzing IMS Workflow Performance	28
11.	IMS Activity View (IMSDTLGR) - Bar Graph Form	29
12.	IMS Activity View (IMSDTLGR) - Text Form	30
13.	Views for Checking IMS Resource Usage	31
14.	Fields for Checking IMS Resource Usage (IMSDTLGR View)	31
15.	IMS Activity Detail View (IMSDTLR)	32
16.	Views for Checking Region Availability	32
17.	Field for Checking Region Availability (IMSDTLGR View)	33
18.	Region Occupancy Statistics View (IRGOCCR)	33
19.	Views for Checking Transaction Class Delays	34
20.	Fields for Checking Transaction Class Delays (IMSDTLGR View)	35
21.	IMS Class Processing View (ICLSUMR)	35
22.	Class Detail View (ICLDTLR)	36
23.	Views for Checking Transaction Scheduling	37
24.	Fields for Checking Transaction Scheduling (IMSDTLGR View)	38
25.	Transaction Queue Status View (ITRSUMR)	38
26.	Transaction Status Detail View (ITRDTLR)	39
27.	Views for Checking BALG Message Processing	39
28.	Field for Checking BALG Processing (IMSDTLGR View)	40
29.	EMH Message Processing View (IBGSUMR)	40
30.	Views for Checking Effect of OS/390 Performance	41
31.	Fields for Checking OS/390 Processing	42
32.	IBGSUMR - Sample BALG View	44
33.	ICLSUMR - Sample Class Activity View	46
34.	IMSDTLGR - Sample IMS Activity View	48
35.	IMSPLXR – Sample IMS Sysplex Activity View	50
36.	IMSPLXR – Sample IMS Sysplex Activity View, Scrolled Right	50
37.	IRGOCCR - Sample Region Occupancy View	52
38.	ITRSUMR - Sample Transaction Processing View	53
39.	Using IPSM Views to Control IMS Response and Delays	56
40.	Response Time Field as an Indicator of Transaction Delays	57
41.	Views for Determining Where Delays Are Occurring	58
42.	IDLTR View	58
43.	Views for Evaluating Transaction Processing Events	59
44.	IFCTR View	59
45.	Checking All IMSDTLGR Fields for Any Abnormal Indicator	60
46.	Views for Checking Completed Transaction Traces	61
47.	ITALIST View	62
48.	IDLTR View	65
49.	IDLTRIO View	66
50.	IDLTRLH View	67
51.	IDLTRLK View	68

52.	IDLTRT View	69
53.	IDLTRPL View	70
54.	IDLDB View	71
55.	IDLDBC View	72
56.	IDLDBD View	72
57.	IDLDBI View	73
58.	IDLDBP View	73
59.	IDLDBTR View	74
60.	IDLDBV View	74
61.	IDLDD View	75
62.	IDLDDC View	76
63.	IDLDDI View	76
64.	IDLDDP View	77
65.	IDLDDTR View	77
66.	IDLDDV View	78
67.	IDLVL View	79
68.	IDLVLC View	80
69.	IDLVLDB View	80
70.	IDLVLDD View	81
71.	IDLVLI View	81
72.	IDLVLP View	82
73.	IDLVLTR View	82
74.	IDLLK View	83
75.	IDLLKC View	84
76.	IDLLKI View	84
77.	IDLLKP View	85
78.	IDLLKTR View	85
79.	IDLLH View	86
80.	IDLLHC View	87
81.	IDLLHI View	87
82.	IDLLHP View	88
83.	IDLLHTR View	88
84.	IFCTR View	91
85.	IFCTR2 View	92
86.	IFCTRA View	93
87.	IFCTRD View	94
88.	IFCTRI View	95
89.	IFCTRP View	96
90.	IFCTRQ View	97
91.	IFCTRR View	98
92.	IFCTRS View	99
93.	Tracing an Application	101
94.	ITALIST View	104
95.	ITALISTD View	105
96.	ITAQUERY View	106
97.	ITASUM View	107
98.	ITASUMZ View	108
99.	IMON View	110
100.	ISERV View	110
101.	IMAREAZ View	111
102.	IMWARN View	111
103.	IINQBG View	112
104.	IWKLDDEF Workload Definition List View, Browse Mode	131
105.	IWKLDDEF Workload Definition List View, Edit Mode	132

106.	Add IMS Workload Definition Dialog Box.....	132
107.	IMS Fast Menu (EZIFAST).....	142
108.	IMS Resource Menu (EZIMSRS).....	143
109.	Region Activity Summary View (IRGNSUMR).....	144
110.	Region Activity Summary View, Scrolled Right.....	144
111.	Region Activity Detail View (IRGNDTLR).....	146
112.	Region Activity DL/I View (IRGNDLIR).....	148
113.	Region Activity DL/I View, Scrolled Right.....	148
114.	Region Activity Fast Path View (IRGNFPLR).....	149
115.	Region Object Easy Menu (IRGNMR).....	150
116.	Region Lock Summary View (ILKRGSUM).....	153
117.	Region Lock Summary View, Scrolled Right.....	153
118.	Region Lock List View (ILKRGLST).....	155
119.	Region Lock List View, Scrolled Right.....	155
120.	Region Lock Wait List View (ILKRGWT).....	157
121.	Region Lock Wait List View, Scrolled Right.....	157
122.	Resource Lock Summary View (ILKRSSUM).....	158
123.	Resource Lock Summary View, Scrolled Right.....	158
124.	Resource Lock List View (ILKRSLST).....	160
125.	Resource Lock List View, Scrolled Right.....	160
126.	Resource Lock Wait List View (ILKR SWT).....	162
127.	Resource Lock Wait List View, Scrolled Right.....	162
128.	EZIFAST Easy Menu.....	167
129.	Communication Activity and Status View (IUSTAT).....	169
130.	Terminal Activity and Status View, Scrolled Right.....	169
131.	Terminal Activity and Status View, Scrolled Right Again.....	170
132.	Communication Activity and Status Detail View (IUDETAIL).....	171
133.	LTERM Status View (IULTERM).....	173
134.	LTERM Status View, Scrolled Right.....	173
135.	Node Line/PTERM Status View (IUNODE).....	175
136.	Communications Menu (IUMUSR).....	176
137.	EZIMS Easy Menu.....	177
138.	User Information View (IUSERI).....	178
139.	User Structure Status View (IUSERS).....	180
140.	User Structure Status View, Scrolled Right.....	181
141.	User Structure Timestamp View (IUSER T).....	182
142.	User Structure Timestamp View, Scrolled Right.....	182
143.	User Related Menu (IUSRMR).....	183
144.	OTMA Client and Server Summary View (IOTMASUM).....	187
145.	OTMA Client and Server Summary View, Scrolled Right.....	187
146.	OTMA Group TPIPE Summary View (ITPIPSUM).....	188
147.	OTMA Group TPIPE Summary View, Scrolled Right.....	188
148.	OTMA TPIPE Message Summary View (ITPIPTRN).....	189
149.	OTMA TPIPE Message Summary View, Scrolled Right.....	189
150.	OTMA Message View (IOTMATRN).....	190
151.	OTMA Message View, Scrolled Right.....	190
152.	OTMA Message View, Scrolled Right a Second Time.....	191
153.	OTMA Message View, Scrolled Right a Third Time.....	191
154.	OTMA Message View, Scrolled Right a Fourth Time.....	191
155.	OTMA Message Detail View (IOTMADTLR).....	192
156.	Fast Path DEDB Area Overview View (IFPSUMR).....	197
157.	Fast Path DEDB Area Overview View, Scrolled Right.....	197
158.	Fast Path DEDB Area Detail View (IFPDTLR).....	198
159.	Fast Path DEDB Area Statistics View (IFPORGR).....	199

160.	Fast Path DEDB Area Statistics View, Scrolled Right	199
161.	Fast Path DEDB Area Status View (IFPSTAR)	200
162.	Fast Path DEDB Area Object Easy Menu (IFPMR).	201
163.	Database Overview View (IDBSUMR)	205
164.	Database Overview View, Scrolled Right.	206
165.	Database Detail View (IDBDTLR).	207
166.	Database Type Summary View (IDBTYPR)	208
167.	Database Status Summary View (IDBSTAR).	209
168.	Database Object Easy Menu (IDBMR)	210
169.	Program Object Easy Menu	213
170.	Program Overview View (IPGSUMR)	214
171.	Program Type/Status Count View (IPGSUMC)	215
172.	Program Count by Type View (IPGSUMCT).	216
173.	IMS Cross-Reference Menu (EZIMSX).	218
174.	Cross-Reference All Records View (IXRSUMR)	221
175.	Program Cross-Reference Summary View (IXPSUMR)	222
176.	Program-to-Database Cross-Reference View (IXPDSUMR).	223
177.	Program-to-Database Cross-Reference View, Scrolled Right	224
178.	Program-to-Transaction Cross-Reference View (IXPTSUMR)	225
179.	Program-to-Transaction Cross-Reference View, Scrolled Right	226
180.	Database Cross-Reference Summary View (IXDSUMR)	227
181.	Database-to-Program Cross-Reference View (IXDPSUMR).	228
182.	Database-to-Program Cross-Reference View, Scrolled Right	229
183.	Database-to-Transaction Cross-Reference View (IXDTSUMR)	230
184.	Database-to-Transaction Cross-Reference View, Scrolled Right	231
185.	Transaction Cross-Reference Summary View (IXTSUMR).	232
186.	Transaction-to-Program Cross-Reference View (IXTPSUMR)	233
187.	Transaction-to-Program Cross-Reference View, Scrolled Right	234
188.	Transaction-to-Database Cross-Reference View (IXTDSUMR)	235
189.	Transaction-to-Database Cross-Reference View, Scrolled Right	236
190.	Database Activity Detail View – Data Sharing Group Level (IDAGDTLR)	241
191.	Database Activity View – IMS System Level (IDASSUMR)	243
192.	Database Activity View – IMS System Level, Scrolled Right	243
193.	Database Activity View – IMS System Level, Scrolled Right Again.	243
194.	Database Activity View – IMS System Level, Scrolled Right Again.	244
195.	Database Activity Detail View (IDASDTLR)	246
196.	Database Activity View – Logical (PCB) Level (IDALSUMR).	248
197.	Database Activity View – Logical (PCB) Level, Scrolled Right	248
198.	Database Activity View – Logical (PCB) Level, Scrolled Right Again	248
199.	Database I/O Activity View – Physical Database Level (IDAPSUMR).	250
200.	Database I/O Activity View – Physical Database Level, Scrolled Right	250
201.	Database I/O Activity View – Physical Database Level, Scrolled Right Again.	251
202.	Database I/O Activity View – Database/Volume Level (IDAXSUMR)	252
203.	Database I/O Activity View – Database/Volume Level, Scrolled Right.	252
204.	Database I/O Activity View – Database/Volume Level, Scrolled Right Again	253
205.	Database I/O Activity View – Database/Volume Level, Scrolled Right Again	253
206.	Database I/O Activity View – Volume Level (IDAVSUMR)	254
207.	Database I/O Activity View – Volume Level, Scrolled Right.	254
208.	Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR)	256
209.	Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR)	258
210.	Database Activity View – VSAM Buffer Pool Level (IDABVSMR).	260
211.	Database Activity View – VSAM Buffer Pool Level, Scrolled Right	260
212.	Database Activity View – VSAM Buffer Pool Level, Scrolled Right Again	261
213.	Database Activity View – OSAM Buffer Pool Level (IDABOSMR).	262

214.	Database Activity View – OSAM Buffer Pool Level, Scrolled Right	262
215.	Database Activity View – OSAM Buffer Pool Level, Scrolled Right Again	262
216.	Shared Queues Group IMS Structure View (ISSIQUES)	267
217.	Shared Message Queue Information View (ISQSUMR)	268
218.	Shared Message Queue Information View, Scrolled Right	268
219.	Shared Message Queue Information View, Scrolled Right Again.	269
220.	Shared Message Queue Detail View (ISQDTLR)	270
221.	Messages by Structure View (ISQSTR)	271
222.	Messages by Structure with Message Ages View (ISQSTAR)	272
223.	Messages by Queue Type View (ISQQTR)	273
224.	Messages by Queue Type with Message Ages View (ISQQTAR)	274
225.	Input Messages by Queue Name View (ISQINR)	275
226.	Input Messages by Queue Name with Message Ages View (ISQINAR)	276
227.	Output Messages by Queue Name View (ISQINR)	277
228.	Output Messages by Queue Name with Message Ages View (ISQINAR)	278
229.	Messages by IMS Owner ID View (ISQOWNER)	279
230.	Messages by IMS Owner ID View, Scrolled Right	279
231.	Queue Menu (ISQMR)	281
232.	ISAMP View	285
233.	ISAMPD View	287
234.	ISAMP View Dialog Box	288
235.	ISAMPOP View	289
236.	ISAMPOPD View	290
237.	SERDEF View	293
238.	SERDEFE View	294
239.	BMC Software Products Summary View (IPRDSUM)	296
240.	BMC Software Products Detail View (IPRDDTL)	297

Tables

1.	BALG Views	44
2.	Class Activity Views	45
3.	IMS Activity Views	47
4.	IMS Sysplex Activity Views	49
5.	Region Occupancy Views	51
6.	Transaction Processing Views	52
7.	Transaction Delay Views	64
8.	Database I/O Delay Views	71
9.	Data Set I/O Delay Views	75
10.	Volume I/O Delay Views	79
11.	Lock Delay Views	83
12.	Latch Delay Views	86
13.	IMS Processing Event Views	90
14.	Transaction Trace Views	103
15.	IMS Workload Monitors for DB2 MPP and IFP Activity	113
16.	IMS Workload Monitors for Fast Path MPP and IFP Activity	114
17.	IMS Workload Monitors for Global Region Calls	114
18.	IMS Workload Monitors for MPP and IFP Elapsed Timing	115
19.	IMS Workload Monitors for MPP and IFP Transactions	115
20.	IMS Resource Monitors for MFS I/O and Requests	116
21.	IMS Resource Monitors for the Input Queue	117
22.	IMS Resource Monitors for the Message Queue	118
23.	IMS Resource Monitors for MSC Links	119
24.	IMS Resource Monitors for the Output Queue	120
25.	IMS Resource Monitors for Scheduling	121
26.	IMS Resource Monitors for Dependent Regions	122
27.	IMS Resource Monitors for Database Activity	123
28.	IMS Internals Resource Monitors	124
29.	IMS Resource Monitors for OS/390	126
30.	IMS Resource Monitors for IRLM	127
31.	Primary and Line Commands on the IWKLDDEF View	135
32.	Primary Commands on the Dialog Boxes for Adding and Changing IMS Workload Definitions	135
33.	Line Commands Provided in the Terminal and User Status View	166
34.	Views that Group Information by Data Sharing Group	238
35.	Views that Group Information by IMS	238

How to Use This Book

This book documents the features and functions of the IMSplex System Manager (IPSM), a MAINVIEW® for IMS Online component.

IPSM works in the MAINVIEW window environment to provide SSI (single system image) views about the performance of multiple IMS regions and systems. Authorized users can use a single terminal to watch not only multiple IMSs but also CICS, DB2, and OS/390 from a single point of control.

This book is intended for use by the IMS master terminal operator (MTO), system programmer, database administrator, or performance analyst who monitors the status, activity, and performance of IMS and its resources.

For information about new features in the current release of MAINVIEW for IMS Online, see the product Release Notes, which are available on the BMC Software Support Web pages.

You can view this book online with Adobe Acrobat Reader; contact your system administrator for assistance.

MAINVIEW for IMS Product Library

The MAINVIEW for IMS product library contains the following documents.

MAINVIEW for IMS **Online:**

MAINVIEW for IMS Online – Customization Guide

MAINVIEW for IMS Online – IPSM Reference Manual (this book)

MAINVIEW for IMS Online – Analyzers Reference Manual

MAINVIEW for IMS Online – Monitors and Traces Reference Manual

MAINVIEW for IMS Online – Release Notes

MAINVIEW for IMS **Offline:**

MAINVIEW for IMS Offline – Customization and Utilities Guide

MAINVIEW for IMS Offline – Performance Reporter Reference Manual

MAINVIEW for IMS Offline – Transaction Accountant Reference Manual

MAINVIEW for IMS Offline – Release Notes

Note: Although MAINVIEW for IMS is often referred to as “MVIMS” in this book, the abbreviation is used for brevity only and does not represent a legal product name of BMC Software.

How This Book Is Organized

This book contains the following parts:

- Part 1 describes IMSplex System Manager (IPSM).
- Part 2 describes how to use IPSM to optimize IMS performance. It describes
 - IMS workflow views
 - transaction response time and delay views
 - transaction trace views
 - monitor views
 - workload definitions
- Part 3 describes how to use IPSM to solve realtime problems. It describes
 - region views
 - IRLM lock views
 - terminal and user status views
 - OTMA views
- Part 4 describes how to use IPSM to manage IMS operations. It describes
 - Fast Path DEDB area views
 - database views
 - program views
 - cross-reference views
 - IMS database activity views
 - CQS views
- Part 5 describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system. IPSM collects the target system samplings for the components of response time (CORT) and workflow views. Part 5 also provides information about controlling the collection of shared message queue data, securing resources, and accessing IMS product lists
- Part 6 contains the glossary and index.

Related MAINVIEW Products

The related MAINVIEW-based products include

- MAINVIEW® AutoOPERATOR™
- MAINVIEW® for CICS
- MAINVIEW® for DB2®
- MAINVIEW® for DBCTL
- MAINVIEW® FOCAL POINT
- MAINVIEW® for MQSeries
- MAINVIEW® for OS/390
- MAINVIEW® VistaPoint™

Customization and administration instructions for the MAINVIEW-based functions are provided in the *MAINVIEW Common Customization Guide*. The following manuals document product-specific customization instructions:

- *MAINVIEW AutoOPERATOR Customization Guide*
- *MAINVIEW for CICS Customization Guide*
- *MAINVIEW for DB2 Customization Guide*
- *MAINVIEW for DBCTL Customization Guide*
- *MAINVIEW for IMS Online – Customization Guide*
- *MAINVIEW for IMS Offline – Customization and Utilities Guide*
- *MAINVIEW for OS/390 Customization Guide*

The following books document the use of general services common to MAINVIEW for IMS and related products:

- *MAINVIEW AutoOPERATOR Basic Automation Guide*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for CLIST EXECs*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for REXX EXECs*
- *MAINVIEW for CICS PERFORMANCE REPORTER User Guide*
- *MAINVIEW for DB2 User Guide*, Volumes 1, 2, and 3
- *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*

Related IBM Publications

OS/390 Initialization and Tuning Guide

IMS Operator Reference

System Administration Guide

Conventions Used in This Manual

The following symbols are used to define command syntax, are *not* part of the command, and should never be typed as part of the command:

- Brackets [] enclose optional parameters or keywords.
- Braces { } enclose a list of parameters; one must be chosen.
- A line | separates alternative options; one can be chosen.
- An underlined parameter is the default.

The following command syntax conventions also apply:

- An ITEM IN CAPITAL LETTERS must be typed exactly as shown.
- Items in *italicized*, lowercase letters are values that you supply.
- When a command is shown in uppercase and lowercase letters, such as **HSplit**, the uppercase letters show the command abbreviation that you can use (**HS**, for example). The lowercase letters complete the entire command name. Typing the entire command name is an optional, alternative way of entering the command.
- Commands without an abbreviation (**END**, for example) appear in all uppercase letters.

Part 1. Introducing IMSplex System Manager (IPSM)

This section introduces IPSM and describes the benefits it provides.

Chapter 1. How IPSM Can Work for You	3
Benefits of Using IPSM	4
How IPSM Works with MAINVIEW for IMS.....	12
 Chapter 2. IPSM Interface	13
Capabilities.....	13
Navigation	14
Key Functions.....	15
Online Help	15
View Naming Conventions.....	15
Selecting a Starting Point	16
 Chapter 3. Getting Started with Menus	17
IMS Easy and Fast Menus	17
IMS Easy Menu (EZIMS).....	18
IMS Sysplex Easy Menu (EZISSI)	19
IMS Fast Menu (EZIFAST)	20
IMS Object Easy Menus	21
Example: Using an Object Easy Menu to Solve a Problem.....	21

Chapter 1. How IPSM Can Work for You

IMSPlex System Manager (IPSM) provides Single System Image views of resources and bottlenecks. This applies to applications across single or multiple IMS regions and systems. IPSM exploits IBM Parallel Sysplex technology and simplifies the management of IMS applications on traditional mainframes.

IPSM helps you

- Optimize system performance

IPSM helps you discover performance and workload problems wherever they occur—across multiple OS/390 and IMS systems. With IPSM, you can

- Manage the progress, throughput, and response times of IMS workloads and transactions
- Examine workload throughput and capacity, as well as region occupancy for IMS and IMSPlex systems
- Identify workload bottlenecks and delays caused by resource and capacity constraints
- Find alternative resources to eliminate workload queuing

- Solve realtime problems

IPSM helps you solve realtime problems quickly. IPSM makes it easy to

- Monitor region activity
- Recognize and resolve N-way data sharing contention
- Monitor users and terminals across single or multiple systems
- Monitor the status of OTMA clients, servers, and the transactions they are running

- Manage IMS operations

IPSM is a powerful tool for managing IMS operations. You can use it to

- Control and manage Fast Path DEDB areas
- Control and manage full-function databases
- Control and manage application programs
- Cross-reference IMS resources—databases, programs, and transactions
- Recognize and solve problems with IMS database activity
- Manage and solve problems with IMS shared message queuing

IPSM puts you in the MAINVIEW window environment as it monitors and reports the information you need to see.

Benefits of Using IPSM

From a single user session, you can monitor and analyze the performance of one or more IMS systems across a sysplex. You can transfer quickly to other MAINVIEW products and you can manage CICS, DB2, and OS/390 from a single point of control.

IPSM collects and organizes the information you want into online views:

Workflow views allow system programmers to determine how much IMS transaction processing capacity is available and how much is being used at any given time. The views show any capacity shortages and recommend the number of regions needed to avoid creating a backlog of messages. Dynamic workload reconfiguration allows system programmers to dynamically change class assignments and transaction attributes directly from the display.

Transaction delay analysis views categorize transaction or workload delays and help you analyze individual resources that are causing delays. System programmers can use these views to ascertain which lock or DASD volume is causing delays and whether the delay affects a single IMS, a data-sharing group, OS/390, or an entire sysplex.

Response time views present a picture of the life cycle of IMS transactions. System programmers can use these views to determine whether a transaction is being held up in queuing, scheduling, application processing, database access, or sync point processing.

Realtime problem-solving views help operators and system programmers solve realtime problems involving resources and users across single or multiple IMS systems. The views allow easy monitoring of region activity, users and terminals, and OTMA clients and servers. They also permit a quick analysis of lock problems, making it much easier to recognize and resolve N-way data sharing resource contention.

Views for managing IMS operations allow database administrators, system programmers, and application programmers to manage Fast Path DEDB areas, full-function databases, and application programs. The views, which allow easy cross-referencing of IMS resources, also assist in the management of IMS database activity and shared message queuing.

Figure 1 on page 5 gives you an overview of IPSM and the many views it provides.

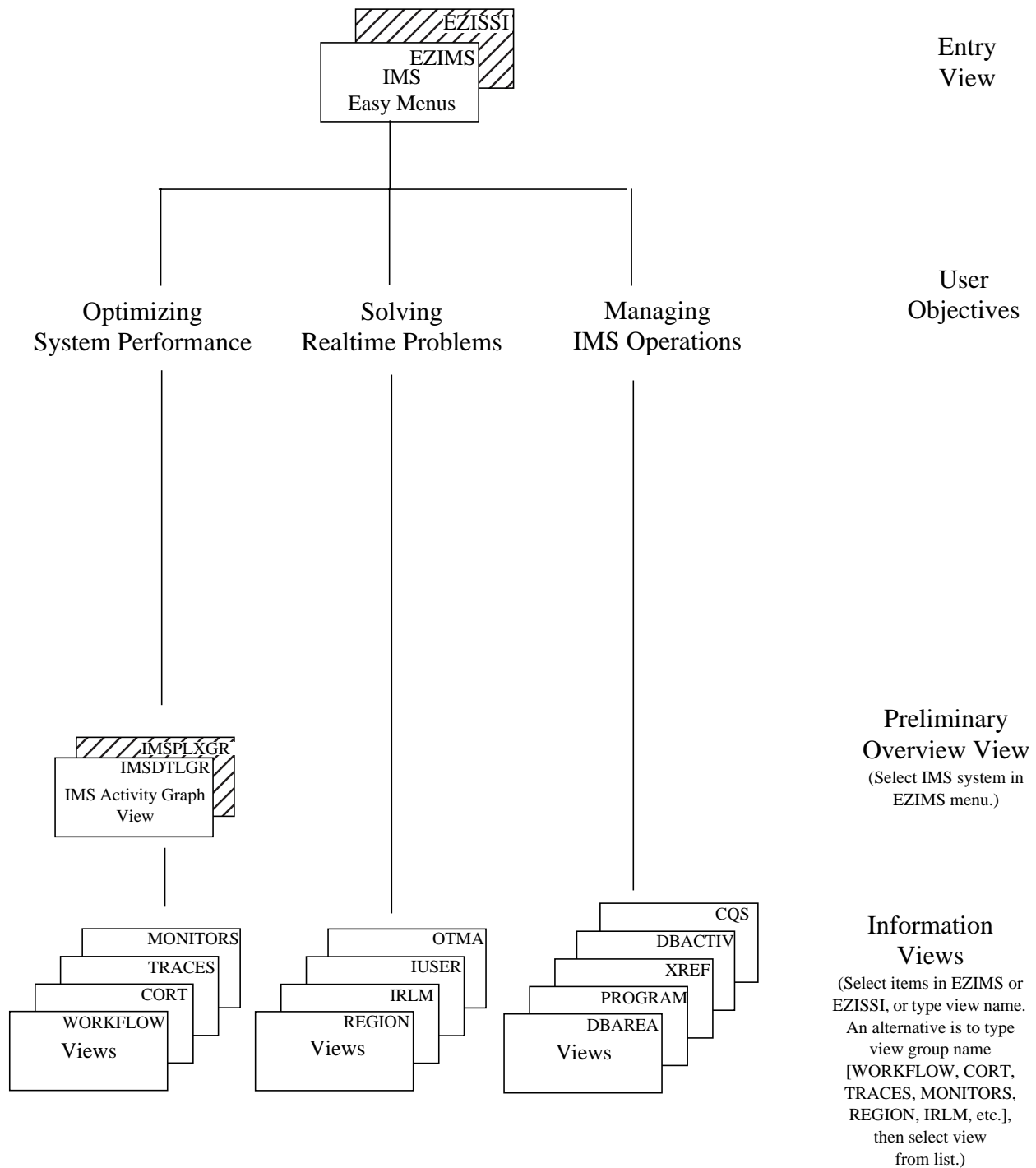


Figure 1. Overview of IPSM

Shaded boxes denote sysplex version of a view.

Figure 2 on page 7 gives you an overview of how to use IPSM to optimize system performance.

See Part 2 of this book (“Optimizing System Performance”) for a description of how you can use IPSM views to

- Manage your IMS workflow
- Analyze transaction response
- Determine the causes of transaction delays

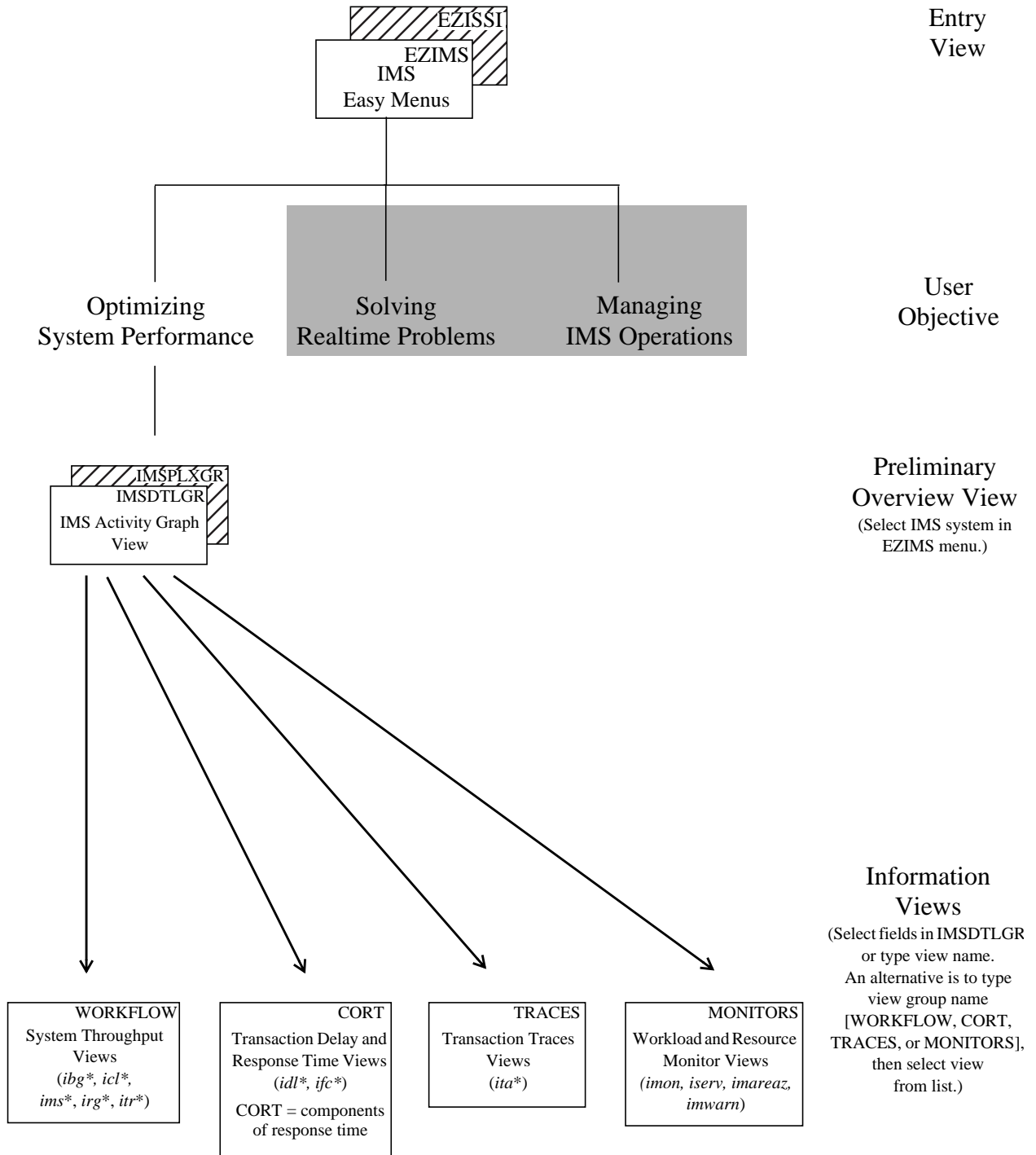


Figure 2. Using IPSM to Optimize System Performance

* To see a list of these views, type **VIEWS nnn*** (where *nnn* represents the first three characters of the view name). You can then select a view from the list presented.

Figure 3 on page 9 gives you an overview of how to use IPSM to solve realtime problems.

See Part 3 of this book (“Solving Realtime Problems”) for a description of how you can use IPSM views to analyze and solve realtime problems in the areas of

- Region activity
- IRLM locking
- Terminals and users
- OTMA clients and servers

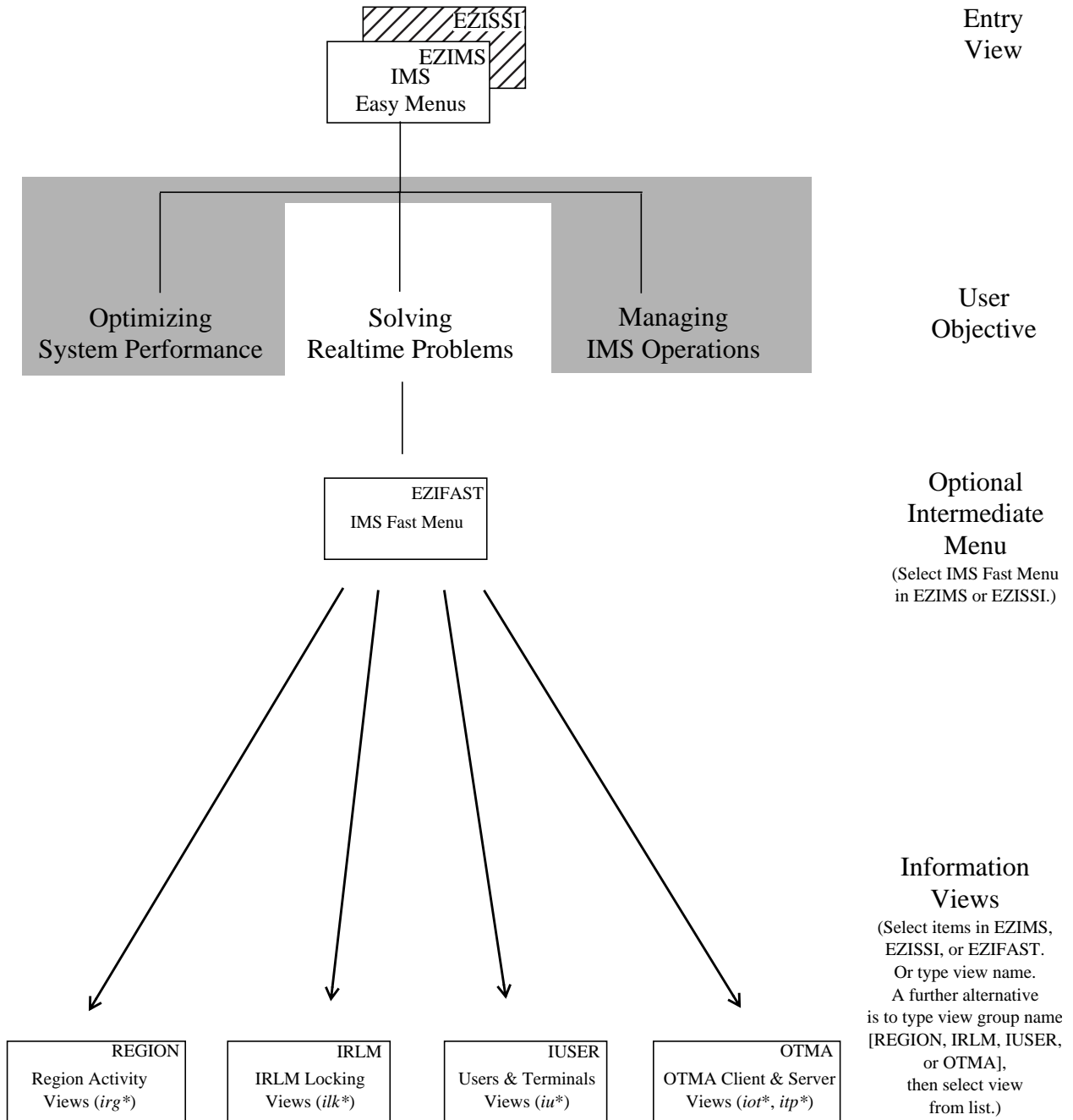


Figure 3. Using IPSM to Solve Realtime Problems

* To see a list of these views, type **VIEWS nn-*nnn**** (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list presented.

Figure 4 on page 11 gives you an overview of how to use IPSM to manage IMS operations.

See Part 4 of this book (“Managing IMS Operations”) for a description of how you can use IPSM views to manage IMS operations, including

- Fast Path DEDB areas
- IMS databases
- Application programs
- Cross-referencing databases, programs, and transactions
- Database activity
- Shared message queuing

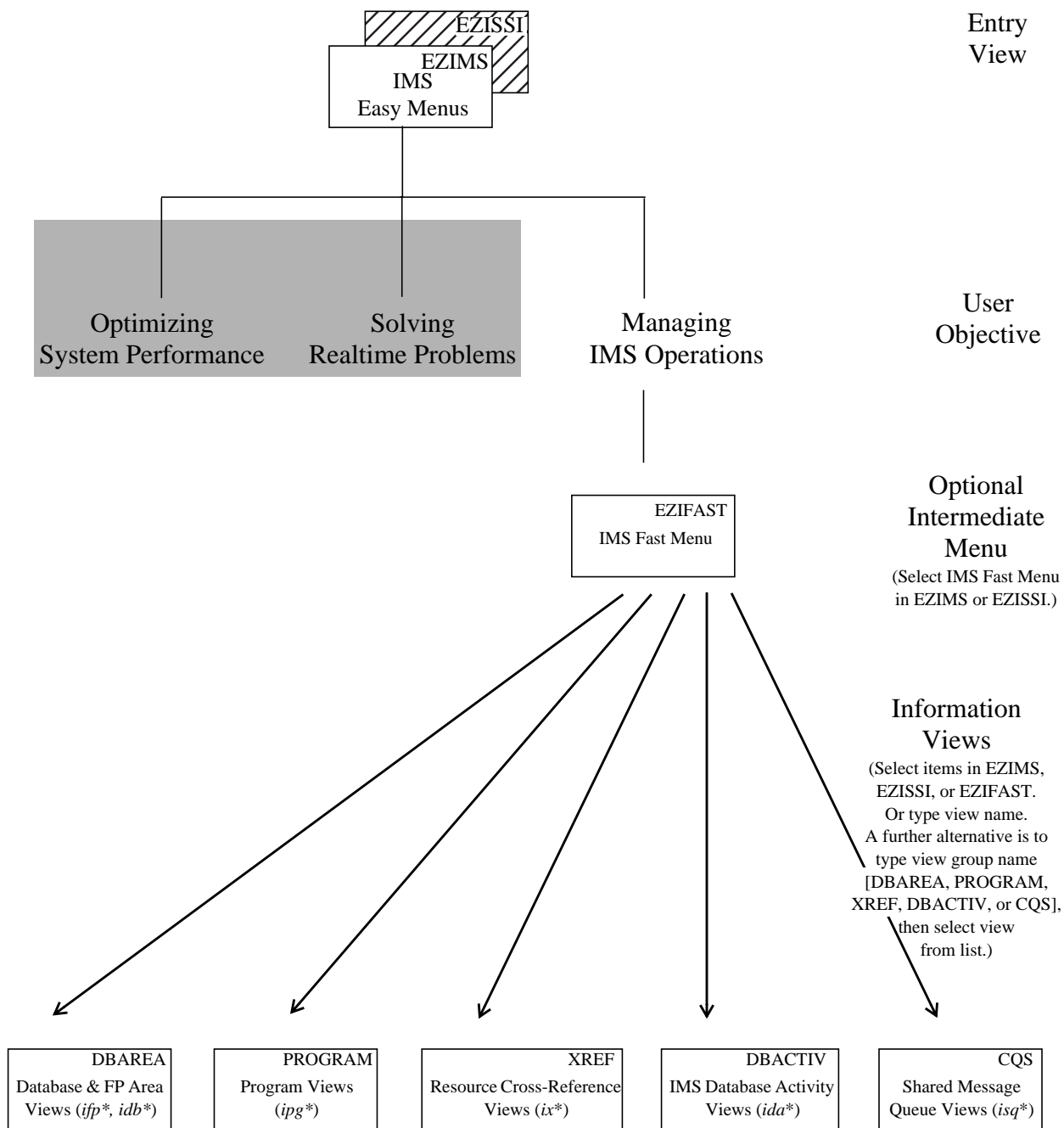


Figure 4. Using IPISM to Manage IMS Operations

* To see a list of these views, type **VIEWS nn-*nnn**** (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list presented.

How IPSM Works with MAINVIEW for IMS

IPSM views provide you with direct hyperlinks to other MAINVIEW for IMS (MVIMS) services. You can use IPSM views to quickly spot potential problem areas, then access other MVIMS views for more definitive problem determination.

IPSM views direct you to the MVIMS information you need:

- Detailed analyzer information about the interaction of IMS transactions under varying processing conditions
- Precise analyzer workload performance details, so you can determine causes of overloads or contention
- Traces of transaction processing and resource usage, so you can isolate application performance problems
- Details about resource activity and status, so you can look for bottlenecks as they occur
- Database conflicts, class enqueueing, and status of buffer pools, so you can see resource usage changes as they occur
- Realtime warnings when monitored workload volumes exceed safe thresholds
- Realtime warnings when monitored response time does not meet service-level objectives
- Realtime warnings when monitored resources exceed user-defined performance thresholds

For more information about these services, see the *MAINVIEW for IMS Online – Analyzers Reference Manual* and the *MAINVIEW for IMS Online – Monitors and Traces Reference Manual*.

Chapter 2. IPSM Interface

This chapter discusses the IMSPlex System Manager (IPSM) user interface. If you are already familiar with the IPSM interface, you might want to skip this chapter.

The IPSM interface takes advantage of the BMC Software MAINVIEW windows mode technology. What this means to you is that

- You will have unique capabilities in this environment
- You will have another way of navigating

The MAINVIEW windows mode environment is discussed in detail in the “Working in Windows Mode” section of the *Using MAINVIEW* manual. A brief synopsis of the information is presented in *MAINVIEW Quick Reference*. Users familiar with ISPF will recognize many of the key functions.

Capabilities

With the IPSM user interface, you have additional capabilities for viewing information and performing actions. IPSM displays information in views. With these views, you can

- Set targets for the system or subsystem you wish to monitor
- Monitor multiple targets together in a Single System Image (SSI) context
- View historical data
- Issue primary commands in any view and line commands in many views
- Hyperlink between views
- Open multiple windows to see different views simultaneously, and then save the configuration
- Sort information by any field
- Filter to see only the information you want to see
- Customize views to
 - Include/exclude any field
 - Rearrange fields or change their width or headings
 - Create your own hyperlinks between views
 - Summarize and display data from many resources in a single row
 - Set thresholds, assigning a color or character display
- Access and customize online help

You can exercise any of these capabilities by following the procedures described in the *Using MAINVIEW* manual.

Navigation

IPSM groups its views into categories (Workflow views, Transaction Response Time views, and so on). You can get an overview of the different categories by glancing through the Contents of this book.

Navigation between views is designed to be “point and shoot”—that is, you can position your cursor on any highlighted field within a view, press the Enter key, and be taken (by hyperlink) to a new view containing related information.

You can start by displaying one of the IPSM Easy Menus—EZIMS for a single system or EZISSI for multiple systems. Position your cursor on any menu item of interest and press Enter. That takes you to a view displaying the information you desire.

Within the new view that is displayed, you can hyperlink from any row in the far left information column to an Object Easy Menu, which will provide detailed, in-context information about the object (resource, job, or workload) you selected. (You can refer to Chapter 3, “Getting Started with Menus” on page 17, for a complete description of IPSM Easy Menus and Object Easy Menus.)

A second way to navigate is to type the view name on the command line of any view once you are within the IPSM component.

You can also type VIEWS on any command line to access an alphabetical list of all IPSM views. You can type MAIN on any command line to access a functional list of view categories. From the categories, you can hyperlink to the names of the individual views. In either MAIN or VIEWS, you can hyperlink from the listed view name to the actual view.

Advantage of hyperlinking. Hyperlinking from one view to another, or from an Object Easy Menu to a related view, has the advantage of keeping a “filter” on the data you are looking at.

For example, if you hyperlink to the Region Occupancy view (IRGOCCR) from the Transaction Class field in the Transaction Queue Status Summary view (ITRSUMR), IRGOCCR view is filtered to show all regions that process the class you selected.

By contrast, if you navigate to IRGOCCR view by typing its name on the command line, you see the unfiltered view—showing all regions, not just the regions processing the class of transaction you are interested in.

Advantages of typing the view name. Navigating by typing the view name on the command line has advantages also:

- It is faster and more direct.
- You do not have to remember the navigation path to the data.

As you gain experience, you may want to remember and enter the names of views you use often, and then hyperlink from those views to related views.

If you split your screen into multiple windows (as described in the *Using MAINVIEW* manual), you can see more than one view at the same time. For example, in one window you can see a tabular view and in another window you can see the data displayed as a result of hyperlinking from a specific row within that view.

Key Functions

In the IPSM environment, many key functions are the same as in ISPF. For example, the END, DOWN, UP, LEFT, and RIGHT keys are defined and function in the same way.

The Enter key performs multiple functions. You can use it to refresh data in a view if you have not cursor-selected any field and if you do not have any commands entered. If you have multiple windows open, the data will be refreshed in all of them.

You can use the Enter key to execute commands once you have entered them in the primary command field or line command column. If you have multiple windows open, a command will be executed only in the window where your cursor was last active.

If you press Enter after cursor-selecting a field with a highlighted header, a hyperlink is executed, taking you to a view containing related information.

If you press Enter after cursor-selecting a field containing summarized data (in a summary view), you will be taken to an “expanded” view displaying all the data that was summarized in the first view. Most summary views provide a hyperlink to “expand,” displaying the data that was summarized. Typically, the “expand” is from the count field.

Online Help

The PF1 key allows you to access online help. For information about the view you are in, position your cursor on the view name in the window information line and press PF1. For a description of a particular field within a view, position your cursor on the field, then press PF1.

To see line commands available within a certain view, position your cursor in the line command column (located to the far left in views that support line commands), and then press PF1.

View Naming Conventions

IPSM views follow a simple naming convention. The first character is usually the letter *I* (for IPSM, the component name). The next several characters are based on the category to which the view belongs (for example, *RGN* for Region views or *DL* for Delay views).

If the letters *DTL* follow the category characters, the view is a detail view. If the letters *SUM* follow the category characters, the view is a summarized view, a tabular view, or both. If the view name ends with the letter *R*, it is usually a realtime view. If it does not, it is usually an interval view.

Easy and Fast Menu views (*EZIMS*, *EZISSI*, and *EZIFAST*), although part of the IPSM component, begin with the letters *EZ*. Easy Menus are a MAINVIEW standard to provide entry points.

Selecting a Starting Point

You can select any of the following starting points for viewing information in IPSM:

- Look at the figures in Chapter 1 to get a visual overview
- Look at the Contents in this book and pick an area of interest
- Look at the view categories in MAIN view, and then hyperlink from a category that interests you to see subcategories and specific views
- Begin by looking at one of the Easy Menus and selecting options from there (see Chapter 3, “Getting Started with Menus” on page 17)

If this is your first experience with IPSM, try using one of the Easy Menus (EZIMS for single-system information or EZISSI for sysplexes) as a point of departure.

If you have previous experience with IMS or know what information you want to see, you might try using the Fast Menu (EZIFAST).

If you are very experienced and already know the views you wish to see, you can go directly to the information by typing the view name on the command line.

Chapter 3. Getting Started with Menus

This chapter describes the basic menus that help you access different views and information within IPSM.

IMSPlex System Manager (IPSM) runs in the MAINVIEW windows environment. For a full description of how to navigate with menus and views in the MAINVIEW environment, see the *Using MAINVIEW* manual.

To enter the MAINVIEW for IMS product, begin at the MAINVIEW Selection Menu (shown in the *Using MAINVIEW* manual). Select either of the following options and press Enter:

- PLEX Management

A list of MAINVIEW products is displayed. Here you can select any active product. Select MVIMS and press Enter. The EZIMS Easy Menu, shown in Figure 5 on page 18, is displayed.

- IMS

The IMS Solutions menu is displayed. Select the MVIMS option.

The IMS Primary Option Menu for MVIMS services is displayed. Select the PLEX MONITORS option (Option V). The EZISSI Easy Menu, shown in Figure 6 on page 19, is displayed.

IMS Easy and Fast Menus

This section describes the IMS Easy and Fast Menus. These menus offer easy access to important information. You can pick the one that provides the quickest access to the information you need.

From all of these menus, you can select views, pop-up windows with options related to your selection, or other menus. The > character indicates a hyperlink to a pop-up window or another menu. The * character indicates an item that is not available because it is not installed. All other items on the menu hyperlink to specific views of IMS performance information. For more information about these menus, see *Using MAINVIEW*.

IMS Easy Menu (EZIMS)

The IMS Easy Menu (EZIMS) is a good place to start when you want to view system performance information. It provides access to all key IPSM views and menus. Simply select one of the descriptions listed in the different task categories and press Enter. That takes you to the information you want, gathered and presented in a specific view.

Once you become more familiar with IPSM, you can access system performance information using any of the following methods:

- Enter the view name on any command line within IPSM.
- Select a group of views by function from the menu displayed after you select the component from the MAINVIEW Selection Menu or from a PlexManager view.
- Hyperlink from related views.

Each method is described in the *Using MAINVIEW* manual.

```
22MAR2002 14:12:30 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1      ALT WIN ===>
W1 =EZIMS=====IMS71X==*=====22MAR2002=14:12:30====MVIMS====D====1
                                IMS EASY MENU
                                Timeframe - Interval

(Change) Target---> IMS71X      Status: INACTIVE
Performance      +-----+
. IMS System        | Place cursor on | Resources
. Processing by Class | menu item and | . Transactions
. Processing by BALG  | press ENTER  | . Programs
                    +-----+ . Databases
                    . Areas

Activity          Exceptions      Cross Reference
. Region Occupancy  . Current Delays  . Transactions/Programs
. Region Activity   . Database Lock Waits . Programs/Databases
. Database Activity . Waiting Regions  . Databases/Transactions
                  . Alarms in Exception . Databases/Programs
                  > Stopped Resources

Communications    Transaction Analysis  Tools and Menus
. Input Messages Queued . Delay Factors  > Utilities
. Output Messages Queued . Components of Response > IMS Fast Menu
. Input/Output Status   . Traces        > IMS SSI Menu
. Active Users          Monitors          > MVIMS Main Menu
. OTMA                 . In Warning    . Installed Products
. APPC                 . Active        . Return...
. Structures and Queues . Workload Objective
                  . Area Summary
```

Figure 5. IMS Easy Menu (EZIMS)

The IMS Easy Menu (EZIMS) provides access to system performance information gathered during a time interval. For system performance information in real time, see the EZIMSR menu (not shown here). You can use the IMS Easy Menu (EZIMS or EZIMSR) to

- View system performance information (simply select a category of interest)
- Access other MAINVIEW for IMS services
- Select the IMS Fast Menu EZIFAST (shown in Figure 7 on page 20)

To display the IMS Easy Menu, do one of the following:

- Enter the view name (EZIMS or EZIMSR) on any command line within IPSM .
- Enter VIEWS in any command line within IPSM, and then select the view name from the resulting list.

IMS Sysplex Easy Menu (EZISSI)

The IMS Sysplex Easy Menu (EZISSI), shown in Figure 6, provides options for obtaining performance measurement information about all the IMS systems across your sysplex.

```

22MAR2002 14: 11: 33 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
WI =EZISSI=====IMS71X==*=====22MAR2002=14: 10: 47====MVI MS====D====1
                                IMS EASY MENU
                                Timeframe - Interval

    Performance                +-----+                Resources
    . IMS Systems in Context    | Place cursor on |    . Transactions
    . IMS Msg Sharing Groups    | menu item and |    . Programs
    . IMS Data Sharing Group    | press ENTER  |    . Databases
    . Processing by Class       +-----+    . Areas
    . Processing by BALG

                                Exceptions                Cross Reference
    Activity                    . Current Delays            . Transactions/Programs
    . Region Occupancy          . Database Lock Waits      . Programs/Databases
    . Region Activity           . Waiting Regions         . Databases/Transactions
    . Database Activity         . Alarms in Exception   . Databases/Programs
                                > Stopped Resources

    Communications              Transaction Analysis          Tools and Menus
    . Input Messages Queued     . Delay Factors      > Utilities
    . Output Messages Queued    . Components of Response > IMS Fast Menu
    . Input/Output Status       . Traces             > IMS SSI Menu
    . Active Users              .                      > MVI MS Main Menu
    . OTMA                      Monitors                  . Installed Products
    . APPC                      . In Warning          . Return...
    . Structures and Queues     . Active
                                . Workload Objective
                                . Area Summary

```

Figure 6. IMS Sysplex Easy Menu (EZISSI)

Although the options in this menu are specific to the IMS sysplex environment, the menu works just like the other Easy Menus described in this chapter.

To display the EZISSI menu, do one of the following:

- Select Option V (multiple system performance monitoring) from the MAINVIEW Primary Option Menu and press Enter. When you use this method to display EZISSI, the context is automatically set to ALL, which allows you to quickly view sysplex-wide performance and operational data. To view data for a specific target, choose the Select Target/Menu item in the Tools and Menus section of the menu.
- Enter the view name (EZISSI) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name (EZISSI) from the resulting list.

IMS Fast Menu (EZIFAST)

The IMS Fast Menu (EZIFAST) offers menu item categories that link to more detailed information.

```
22MAR2002 14:13:13 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
W1 =EZIFAST=====IMS71X=====22MAR2002=14:13:13====MVIMS====D====1

                                IMS FAST MENU
                                Timeframe - Interval
                                (Change) Target---> IMS71X          Status: INACTIVE
                                System
                                . IMS                               | Place cursor on | . Database Activity
                                . Status                           | menu item and  | . Overview
                                . Log Status                       | press ENTER   | . Databases
                                > IRLM Menu                        +-----+ . Volumes
                                > System Menu                     | . VSAM Buffer Pools
                                Scheduling                       | . OSAM Buffer Pools
                                . Statistics                     | . Fast Path Buffer Stats
                                . DMB Utilization                | . Resources
                                . PSB Utilization                | . Transactions by Status
                                . Activity by Class               | . Programs by Status
                                . Activity by BALG                | . Databases by Status
                                Regions                           | . Areas by Status
                                . Occupancy                       | > Resources Menu
                                . All Regions                     | Cross Reference
                                . Processing                      | . Transactions/Programs
                                . Waiting                         | . Programs/Databases
                                Communications                    | . Databases/Transactions
                                . Input Messages                  | . Databases/Programs
                                . Output Messages                 | > Cross Reference Menu
                                . Input/Output Status              | Tools and Menus
                                . Active Users                     | > Utilities
                                . APPC                           | > IMS Easy Menu
                                . OTMA Summary                    | > IMS SSI Menu
                                . OTMA Transactions                | > MVIMS Main Menu
                                . SMQ Structures                  | . Installed Products
                                . Manage                          | . Return...
```

Figure 7. IMS Fast Menu (EZIFAST)

To display the IMS Fast Menu, do one of the following:

- Enter the view name (EZIFAST) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name from the resulting list.

IMS Object Easy Menus

This section describes IMS Object Easy Menus. An IMS Object Easy Menu is related to an object (such as a resource, job, or workload) shown in another view. It provides more detailed information about the specific object it is related to.

To display an IMS Object Easy Menu, hyperlink from an object (such as a resource, job, or workload) shown in another view. Generally, you will select an object from the first column in a view and press Enter to hyperlink to the related Object Easy Menu. The menu gives you more detailed information about the object you selected.

Example: Using an Object Easy Menu to Solve a Problem

This section provides an example of how you might use an IMS Object Easy Menu to solve a problem where you suspect region occupancy to be a contributing factor.

You might begin at the IMS Easy Menu, EZIMS (shown in Figure 5 on page 18). First, you select the High Occupancy field in the Regions section of the menu, which takes you to the Region Occupancy view (IRGOCC), shown in Figure 8.

22MAR2002 12: 29: 41 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> CSR

CURR WIN ==> 1 ALT WIN ==>

>WI =IRGOCC=====IMS71Y==*=====22MAR2002==12: 29: 41====MVIMS====D====3

CM Reg	Region	Rgn	Rgn	MVS	Proc	Rgn	Cls	%	Cls	%	Cls	%	Cls	%	Other
-- ID	Name	Typ	CPU	CPU	Rate	Occ		Occ		Occ		Occ		Occ	% Occ
1	IMSM18Y	MPP	2	91	0.4	63	1	63	2	0	3	0	4	0	
3	IMSM18Y	MPP	2	91	0.4	62	1	62	2	0	3	0	4	0	
2	IMSM18Y	MPP	2	91	0.4	62	1	62	2	0	3	0	4	0	

Figure 8. Sample Region Occupancy View (IRGOCC)

In the IRGOCC view, you can select one of the objects in the Reg ID field to get further information. That takes you to the related IMS Object Easy Menu, shown in Figure 9 on page 22.

```

22MAR2002 12:31:45 ----- INFORMATION DISPLAY -----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IRGOCC==IRGMO====IMS71Y==*=====22MAR2002==12:29:41====MVIMS=====1

                                Region Menu
                                Timeframe - Interval

                                Region Name -> IMSM18Y
                                    ID -> 1
                                IMS ID -> Y18H

Region Information          +-----+          Tools and Menus
. Work Qued for this Rgn    | Place cursor on | > Utilities
. Region Activity           | menu item and | > MVIMS Main Menu
. This Region Type         | press ENTER   | > IMS Easy Menu
                            +-----+          > IMS Fast Menu
                                   . Return...

View Criteria
. Include BMPs and DBTs
. Include BMPs
. Include DBTs
. Exclude BMPs and DBTs

```

Figure 9. Sample IMS Object Easy Menu (IRGMO)

From this Object Easy Menu you can access the detailed information you need to narrow the scope of your problem. The menu allows you to access

- Region-related information you can view
- Utilities that allow you to change targets or timeframes
- Other MVIMS services that provide more detailed information for the element you selected

For more information about IMS Object Easy Menus and how to access and customize them, see the *Using MAINVIEW* manual.

Part 2. Optimizing System Performance

This section describes how you can use IPSM views to manage your IMS workflow, analyze transaction response, and determine the causes of transaction delays. For general information about views, see the *Using MAINVIEW* manual.

Chapter 4. Managing IMS Workflow Performance	27
Using Workflow Views to Analyze Performance	29
Is IMS Resource Usage Too High?	31
Are Regions Available for Processing?	32
Are Any Transaction Classes Being Delayed?	34
Hyperlinking for Further Information	36
Which Transactions Are Not Getting Scheduled?	37
Are BALGs Being Serviced Efficiently?	39
Is OS/390 Affecting IMS Performance?	41
Views for Workflow Management – Reference Section	43
BALG Views	44
IBGSUMR View – EMH Message Processing	44
Class Activity Views	45
ICLSUMR View – Class Occupancy	46
IMS Activity Views	47
IMSDTLGR View – IMS Processing and Resource Usage	48
IMS Sysplex Activity Views	49
IMSPLXR View – IMS Sysplex Performance	50
Region Occupancy Views	51
IRGOCCR View – Region Occupancy	52
Transaction Processing Views	52
ITRSUMR – Transaction Queue Status	53
Chapter 5. Controlling Transaction Response Time and Delays	55
Analyzing Response Time Problems	57
Where Are Delays Occurring?	57
Viewing Transaction Delays	58
Which Events Are Contributing to Response Time?	59
View Transaction Processing Events	59
View a List of Completed Transaction Traces	60
Views for Transaction Delay Analysis	63
Transaction Delays	64
IDLTR – Transaction Delays	65
IDLTRIO – I/O Delays by Transaction	66
DLTRLH – Latch Delays by Latch	67
IDLTRLK – Lock Delays by Transaction	68
IDLTROU – Other Delays by Transaction	69
IDLTRPL – Pool Delays by Transaction	70
Database I/O Delays	71
IDLDB – I/O Delays by Database	71
IDLDBC – Database I/O Delays by Class	72
IDLDBD – Database I/O Delays by Data Set	72
IDLDBI – Database I/O Delays by IMS	73
IDLDBP – Database I/O Delays by PSB	73
IDLDBTR – Database I/O Delays by Transaction	74
IDLDBV – Database I/O Delays by Volume	74

Data Set I/O Delays	75
IDLDD – I/O Delays by Data Set	75
IDLDDC – Data Set I/O Delays by Class	76
IDLDDI – Data Set I/O Delays by IMS	76
IDLDDP – Data Set I/O Delays by PSB	77
IDLDDTR – Data Set I/O Delays by Transaction	77
IDLDDV – Data Set I/O Delays by Volume	78
Volume I/O Delays	79
IDLVL – I/O Delays by Volume	79
IDLVLC – Volume I/O Delays by Class	80
IDLVLDB – Volume I/O Delays by Database	80
IDLVLDD – Volume I/O Delays by Data Set	81
IDLVLI – Volume I/O Delays by IMS	81
IDLVLP – Volume I/O Delays by PSB	82
IDLVLTR – Volume I/O Delays by Transaction	82
Lock Delays	83
IDLLK – Lock Delays	83
IDLLKC – Lock Delays by Class	84
IDLLKI – Lock Delays by IMS	84
IDLLKP – Lock Delays by PSB	85
IDLLKTR – Lock Delays by Transaction	85
Latch Delays	86
IDLLH – Latch Delays	86
IDLLHC – Latch Delays by Class	87
IDLLHI – Latch Delays by IMS	87
IDLLHP – Latch Delays by PSB	88
IDLLHTR – Latch Delays by Transaction	88
Views for Transaction Response Analysis	89
IMS Processing Events	90
IFCTR – Processing Events by Transaction	91
IFCTR2 – DB2 by Transaction	92
IFCTRA – Application by Transaction	93
IFCTRD – DL/I by Transaction	94
IFCTRI – DL/I Calls by Transaction	95
IFCTRP – Sync Point by Transaction	96
IFCTRQ – Input Queue by Transaction	97
IFCTRR – ROLS by Transaction	98
IFCTRS – Scheduling by Transaction	99
Chapter 6. Examining a User Application	101
Views for Application Performance Analysis	103
Transaction Trace Views	103
ITALIST – List of Transaction Trace Data Sets	104
ITALISTD – Trace Data Set Detail	105
ITAQUERY – Select Trace Data	106
ITASUM – Trace Entries	107
ITASUMZ – Trace Entries Summarized by Transaction	108
Chapter 7. Monitoring IMS Workloads and Resources	109
IMON – Target Monitor Summary	110
ISERV – Active Monitors	110
IMAREAZ – Target by Area Monitor Summary	111
IMWARN – Monitors in Warning	111
MAINVIEW for IMS Monitors	112

IMS Workload Monitors	113
DB2 MPP and IFP Activity	113
Fast Path MPP and IFP Activity	114
Global Region Calls	114
MPP and IFP Elapsed Timing	115
MPP and IFP Transactions	115
IMS Resource Monitors	116
IMS MFS	116
Input Queue	117
Message Queue	118
MSC Links	119
Output Queue	120
IMS Scheduling	121
IMS Dependent Regions	122
IMS Database	123
IMS Internals	124
IMS Interaction with OS/390	126
IRLM	127
Chapter 8. Creating IMS Workload Definitions	129
Elements of a Workload Definition	129
Workload and Composite Names	129
Service-Level Objectives	129
Monitoring Time Range	129
Target ID and System ID	129
Workload Resource Fields	129
Planning IMS Workload Definitions	130
Establishing Workload Conventions	130
Workload Names	130
Composite Names	130
Defining Workload Service-Level Objectives	130
Identifying Critical Workload Monitoring Periods	131
Creating a New Workload Definition	131
Accessing the IWKLDDEF View	131
Opening the Add IMS Workload Definition Dialog Box	132
Assigning the New Workload Definition Settings	133
Workload and Composite Names	133
Target and System IDs	133
Description	133
Monitored IMS Resources	133
Response Time and Percent of Transactions Fields	134
Include Queuing	134
Saving and Installing a New Workload Definition	134
Commands in the IWKLDDEF View and the IMS Workload Definition Dialog Boxes	135
Maintaining Workload Definitions	136
Changing a Workload Definition	136
Deleting and Recovering Workload Definitions	137

Chapter 4. Managing IMS Workflow Performance

This chapter shows you how to use IMSPlex System Manager (IPSM) to manage your workflow performance. A visual overview is given in Figure 10 on page 28. This is followed by a discussion of how to use IPSM workflow views to answer the following questions:

- Is IMS resource usage too high?
- Are regions available for processing?
- Are any classes being delayed?
- Are BALGs being serviced efficiently?
- Is OS/390 affecting IMS performance?

The second half of this chapter is a reference section (“Views for Workflow Management – Reference Section” on page 43) with a complete listing of IPSM views available to help you manage IMS workflow and transaction processing throughput. Views are grouped by type of information provided:

- IMS activity
- IMS sysplex activity
- Region occupancy
- Class activity
- Transaction processing
- Transaction processing for Fast Path balancing group (BALG)

Each view group contains both summary and detail views. Most views are available in either realtime or interval versions. A sample realtime view from each group is presented and described. (Realtime views show you information from the present time. Interval views show you information gathered over a time period. The time period can be either from current or past time.)

Some views are available in either graphical or textual form. The graphical form presents data in bar graphs to give you a quick visual picture. The textual form provides you with additional numerical information.

Note: SMQ is displayed in the message count field of workload and transaction processing views if the ISQUERY parameter is set to prevent collection of message count data for IMS systems using shared message queues. The ISQUERY parameter is located in the BBPARM member IMFBEX00. When the ISQUERY parameter is set to allow collection of message count data for shared message queues, you can also use it to define the refresh rate for the data. For information about using the ISQUERY parameter, see Chapter 21, “Controlling Shared Message Queue Data Collection” on page 291.

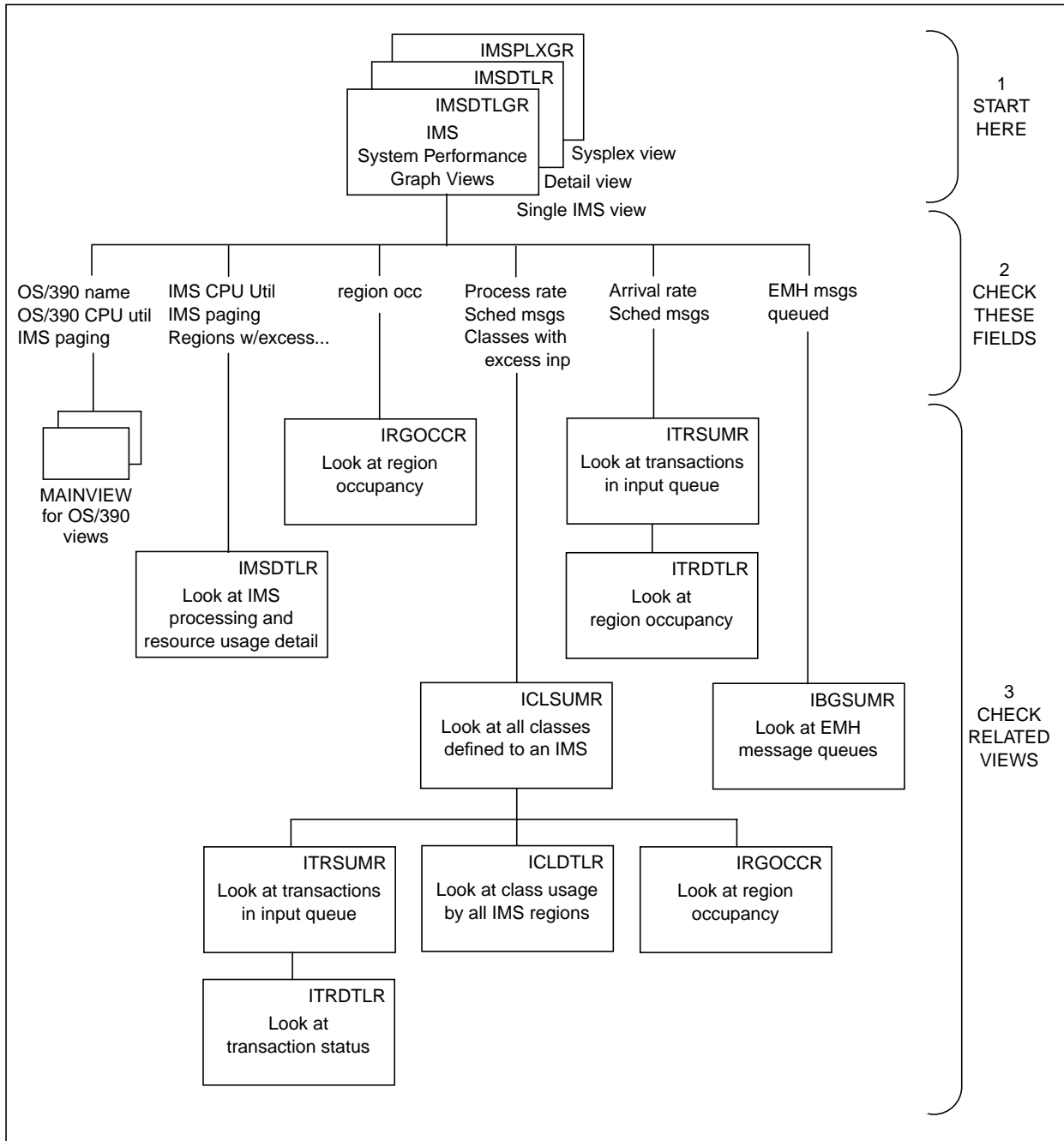


Figure 10. Analyzing IMS Workflow Performance

Using Workflow Views to Analyze Performance

A good starting point for analyzing your IMS workflow performance is either the IMS Activity view (IMSDTLGR) for a single IMS or the IMS Sysplex Activity view (IMSPLXGR) for multiple IMS systems.

Both views are available in either bar graph or textual form. (Certain monitor configurations do not support extended attributes required for viewing the bar graph form.) The bar graph form of the (single) IMS Activity view (IMSDTLGR) is shown in Figure 11.

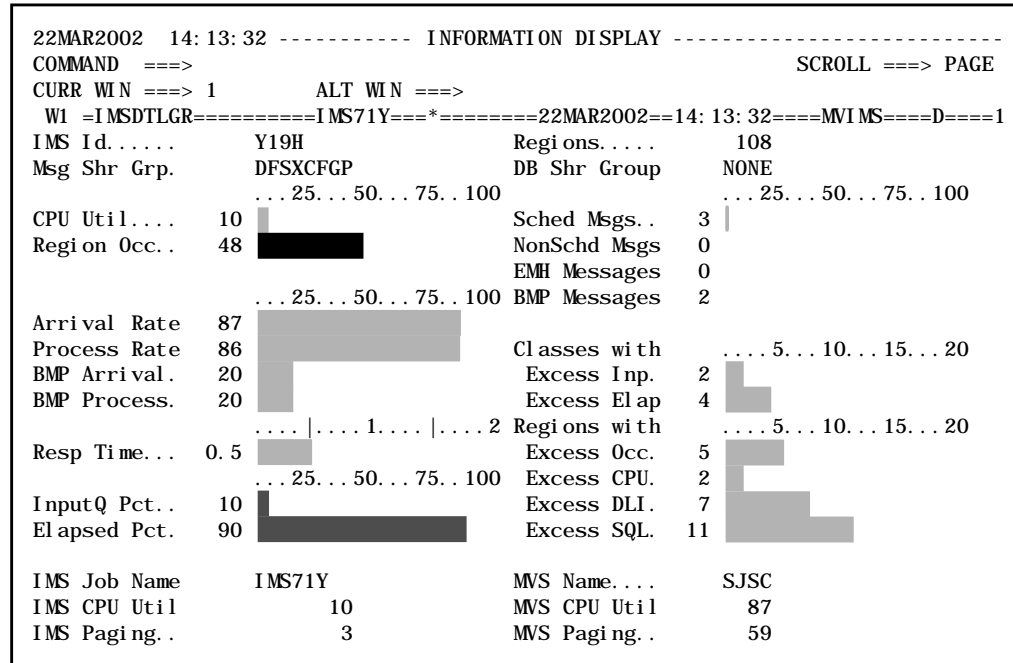


Figure 11. IMS Activity View (IMSDTLGR) - Bar Graph Form

If your monitor does not support the graphical view, IMSDTLGR will look like the view in Figure 12 on page 30.

22MAR2002 14:13:32 ----- INFORMATION DISPLAY -----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
W1 =IMSDTLGR=====IMS71Y==*=====22MAR2002==14:13:32==MVIMS==D==1			
IMS Id.	Y19H	Regions.	108
Msg Shr Grp.	DFSXCFCGP	DB Shr Group	NONE
	...25...50...75..100		...25...50...75..100
CPU Util....	10 *	Sched Msgs..	3
Region Occ..	48 *****	NonSchd Msgs	0
		EMH Messages	0
	...25...50...75..100	BMP Messages	2
Arrival Rate	87 *****		
Process Rate	86 *****	Classes with5...10...15...20
BMP Arrival.	20 ***	Excess Inp.	2 **
BMP Process.	20 ***	Excess Elap	4 ****
1.... .2	Regions with5...10...15...20
Resp Time...	0.5 *****	Excess Occ.	5 *****
	...25...50...75..100	Excess CPU.	2 **
InputQ Pct..	10 *	Excess DLI.	7 *****
Elapsed Pct.	90 *****	Excess SQL.	11 *****
IMS Job Name	IMS71Y	MVS Name....	SJSC
IMS CPU Util	10	MVS CPU Util	87
IMS Paging..	3	MVS Paging..	59

Figure 12. IMS Activity View (IMSDTLGR) - Text Form

To display IMSDTLGR view, enter IMSDTLGR on the command line, or enter VIEWS and then select IMSDTLGR from the resulting list of views. For more information about the view or any of its fields, select the view name (IMSDTLGR) on the window information line or select any field name and then press your help key.

You can hyperlink from several fields in the IMSDTLGR view to access other views that contain related information. By means of this dynamic view interaction, you can isolate and identify potential problems. The following pages show you how to use these views to answer typical workflow management questions.

Is IMS Resource Usage Too High?

To analyze whether your IMS resource usage is too high, begin by looking at relevant fields within IMSDTLGR view, and then check ICLSUMR view (as shown in Figure 13).

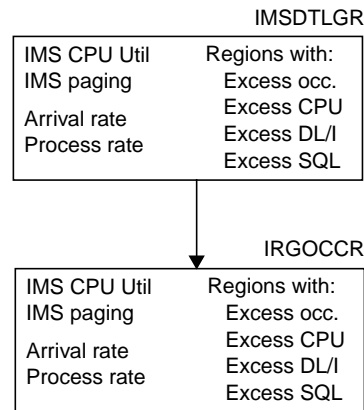


Figure 13. Views for Checking IMS Resource Usage

Begin your analysis of IMS resource usage by looking at the IMS CPU Util, IMS Paging, and Regions with Excess Occ, CPU, DLI, and SQL fields in the IMSDTLGR view. The fields are highlighted in Figure 14.

22MAR2002 14:13:32 ----- INFORMATION DISPLAY -----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
W1 =IMSDTLGR=====IMS71Y==*=22MAR2002==14:13:32====MVIS====D=====			
IMS Id.	Y19H	Regions.	108
Msg Shr Grp.	DFSXCFCGP	DB Shr Group	NONE
	... 25... 50... 75... 100		... 25... 50... 75... 100
CPU Util....	10	Sched Msgs..	3
Region Occ..	48	NonSchd Msgs	0
	... 25... 50... 75... 100	EMH Messages	0
		BMP Messages	2
Arrival Rate	87		
Process Rate	86	Classes with	... 5... 10... 15... 20
BMP Arrival.	20	Excess Inp.	2
BMP Process.	20	Excess Elap	4
	... 25... 50... 75... 100		
Resp Time...	0.5	Regions with	... 5... 10... 15... 20
	... 25... 50... 75... 100	Excess Occ.	5
InputQ Pct..	10	Excess CPU.	2
Elapsed Pct.	90	Excess DLI.	7
		Excess SQL.	11
IMS Job Name	IMS71Y	MVS Name...	SJSC
IMS CPU Util	10	MVS CPU Util	87
IMS Paging..	3	MVS Paging..	59

Figure 14. Fields for Checking IMS Resource Usage (IMSDTLGR View)

If a value in one of the fields is unusual or above normal, determine if that is due to any of the following reasons:

- A heavier workflow
(Check the Arrival Rate and Processing Rate fields in IMSDTLGR view.)
- Application mix
(See ICLSUMR view.)
- Changes in the applications themselves

To see more detailed information about the work being performed and the resources being used by an IMS, display the IMS Activity Detail view (IMSDTLR). To display the view, enter IMSDTLR on the command line, or enter VIEWS and then select IMSDTLR from the resulting list of views.

```

22MAR2002 15: 58: 50 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
WI =IMSDTLR=====IMS71X====*=====20NOV2001==09: 07: 38====MVIMS====D====1
IMS Id. .... X71H CPU Utilization      Transaction Times.
IMS Job Name.. IMS71X MVS System. ... 91 Response Time... 0.194
Msg Shr Group. DFSXCFGP IMS System. ... 7 Input Queue Time 0.045
DB Shr Group.. NONE Control Rgn. 1 Elapsed Time... 0.148
MVS Name..... SJSC DLI SAS Rgn. 0 Transaction Rates.
Regions. .... 4 TP Rgns. .... 5 Arrival Rate... 1
Avg Region Occ 62 BMP Rgns. .... 2 Process Rate... 1
Occ Threshold. 0 DBRC Rgn. .... 0 BMP Arrival Rate 0
                  IRLM Rgn. .... 0 BMP Process Rate 0
                  Messages. ....
                  Schedulabl e. .... 419
                  Non-Schedulabl e. 0
                  BMP. .... 0

```

Figure 15. IMS Activity Detail View (IMSDTLR)

IMSDTLR view shows how your critical resources are being used by IMS. For a complete description of what any field shows, position your cursor on the field and press your help key.

Are Regions Available for Processing?

To see if you have regions available for processing, begin by looking at the Regi on Occ field in IMSDTLGR view, and then look at IRGOCCR view. See Figure for a visual overview.

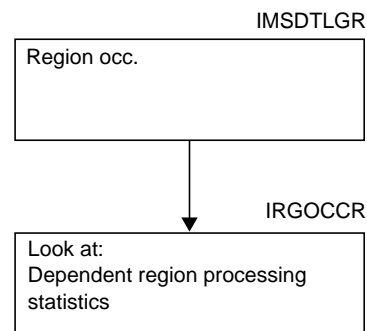


Figure 16. Views for Checking Region Availability

The Region Occ field shows the percentage of time that regions are busy processing or scheduling transactions. A high percentage in the field could mean that some regions are not available to process transactions when they arrive. The Region Occ field in IMSDTLGR view is highlighted in Figure 17.

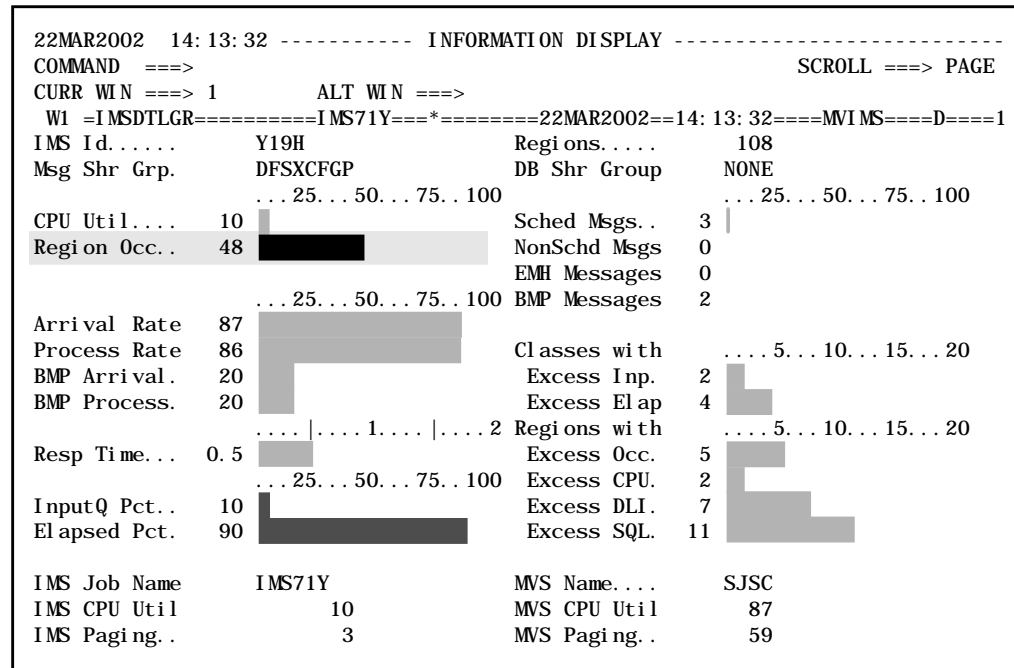


Figure 17. Field for Checking Region Availability (IMSDTLGR View)

If you find a high percentage in the Region Occ field, hyperlink from that field. This takes you to the Region Occupancy Statistics view (IRGOCCR), where you can see a summary of processing by dependent regions. IRGOCCR view is shown in Figure 18.

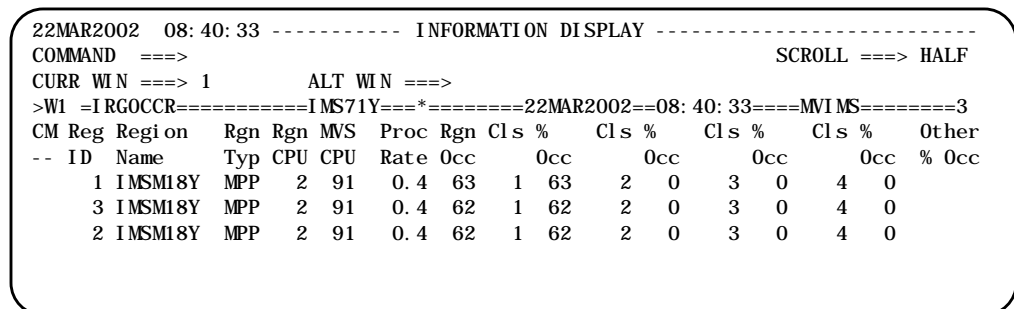


Figure 18. Region Occupancy Statistics View (IRGOCCR)

IRGOCCR view shows region and CPU usage. Region utilization is broken down by class. You can use this information to

- Maximize region resource usage and balance workflow processing
- Evaluate the service provided to each class by each region
- Issue line action commands to change class assignments dynamically

To display this view at any time, enter IRGOCCR on the command line or enter VIEWS and then select IRGOCCR from the resulting list of views. For more information about the view or any of its fields, select the view name on the window information line or select any field name and then press your help key.

Are Any Transaction Classes Being Delayed?

To analyze whether any transaction classes are being delayed, you can check to see if there are any excessive input queues for some classes, which transactions are delayed, and why. You can then investigate to see if there are under-utilized regions, which you can use to process this work, or you can start additional regions to do it.

To determine this information, check IMSDTLGR view, then hyperlink to ICLSUMR and other views for additional information. Figure 19 gives you a visual overview of how to proceed with your analysis.

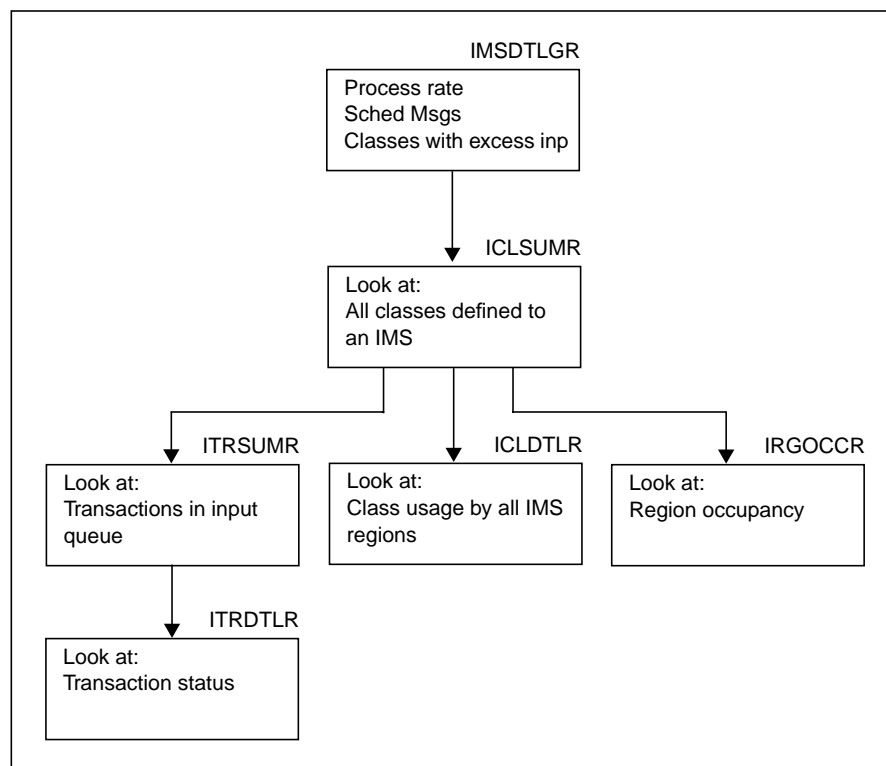


Figure 19. Views for Checking Transaction Class Delays

The first thing you need to do is check the following fields in **IMSDTLGR** view:

- Process Rate
- Sched Msgs
- Classes with Excess Inp

The fields are highlighted in Figure 20 on page 35.

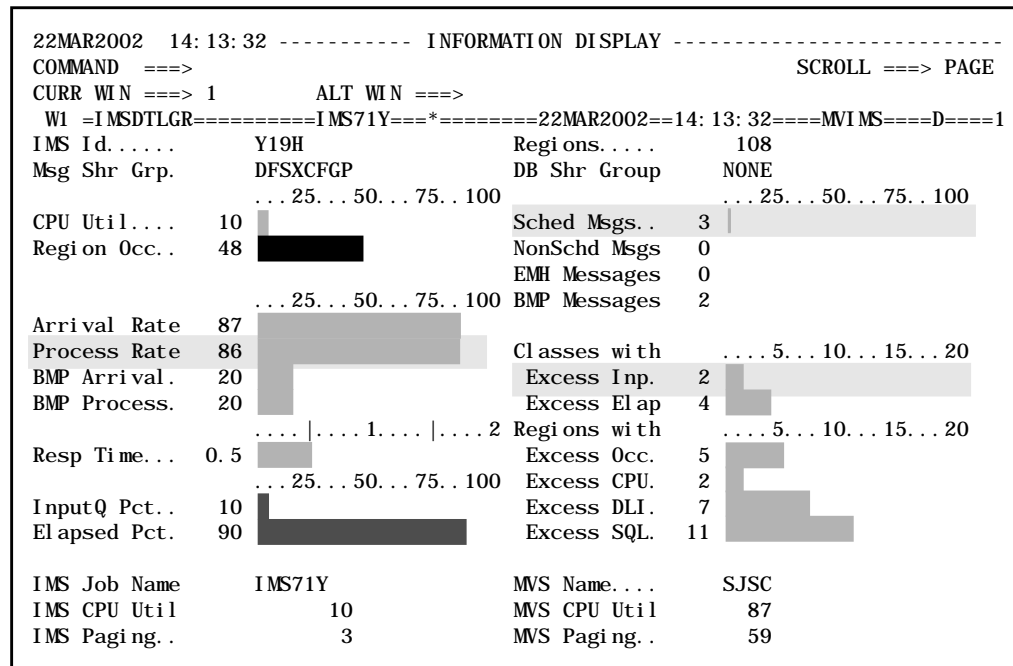


Figure 20. Fields for Checking Transaction Class Delays (IMSDTLGR View)

A high value in any of these fields indicates processing delays somewhere in the system. Classes with Excess Inp highlights the number of classes that have processing delayed beyond a limit established for input queuing.

The second thing you need to do is hyperlink from the Classes with Excess Inp field to the IMS Class Processing view (ICLSUMR), which shows you class usage.

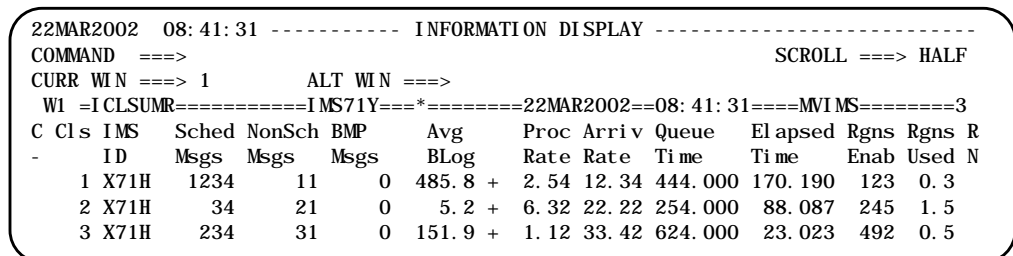


Figure 21. IMS Class Processing View (ICLSUMR)

ICLSUMR view shows all the classes defined to an IMS system and how they are being used by all IMS regions. It shows the

- Number of regions active for each class
- Number of regions used for each class
- Number of regions needed to prevent an increase in schedulable messages in the input queue
- Processing statistics for each class

For more information about this view or any of its fields, position your cursor on the view name on the window information line or on any field name and press your help key.

To display this view at any time, enter ICLSUMR on the command line, or enter VIEWS and then select ICLSUMR from the resulting list of views.

Hyperlinking for Further Information

As shown in Figure 19 on page 34, you can hyperlink from ICLSUMR view for further information to help you analyze transaction class delays:

- If you want information about transactions that are queued for a class, hyperlink from the following fields in ICLSUMR view:

- Sched Msgs
- NonSch Msgs

That will take you to ITRSUMR view (shown in Figure 25 on page 38). ITRSUMR view shows you transactions in the input queue.

- If you suspect a delay in throughput for a particular class, hyperlink from the Cls field in ICLSUMR field:

That will take you to a menu where you can choose to view the Class Detail view (ICLDTLR). The Class Detail view, shown in Figure 22, shows detailed statistics about class processing.

```

22MAR2002 08:42:16 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
WI
=ICLDTLR=====IMS71Y==*=====22MAR2002==08:42:16====MVIMS=====1
Class. .... 1 --Total Msgs--          -Process Stat--
IMS Id. .... Y18H Back Log. .... 485.83 Avg CPU Time... 6.000
MVS Name. .... SYSD Back Log Dir... Increase Min CPU Time... 4.000
Total Regions.. 912 Queue Size.... 2490 Max CPU Time... 8.243
Enabled Regions 246 Diff Tran Cd... 54 Avg Elapse Time 22.000
Enabled Rgn Occ 96 --Sched Msgs--          Min Elapse Time 8.390
Region Delay... 222 Queue Size.... 2468 Max Elapse Time 6.003
Regions Needed. 6.3 Diff Tran Cd... 26 Avg Queue Time. 3.000
Regions Used... 1.1 -Non-Sched Msg-          Min Queue Time. 1.007
Proc Rate..... 5.8 Queue Size.... 22 Max Queue Time. 1.026
Arrival Rate... 0.5 Diff Tran Cd... 28 Arrival Rate... 24.682
          -BMP Msgs....
          Queue Si ze.... 24
          Di ff Tran Cd... 30

```

Figure 22. Class Detail View (ICLDTLR)

You can also access the Class Detail view at any time by entering ICLDTLR *classid* on the command line (where *classid* is the class you want to view).

For more information about the view or any of its fields, select the view name on the window information line or any field name and press your help key.

- If you need to see details about the regions processing each class, hyperlink from the Enabled Regions field in ICLSUMR view. This will take you to the Region Occupancy view (IRGOCCR), shown in Figure 18 on page 33.
- To see the occupancy of regions not enabled for a transaction class, hyperlink from the Regions Needed field in ICLSUMR view (see Figure 21 on page 35). This will take you to IRGOCCR view, where you can use actions to reassign the class.

In IRGOCCR view, you can also

- Hyperlink to see just those regions that are able to process this class
- Look at the occupancy of those regions to see if they are available to process this work
- Look at the class assignments

Which Transactions Are Not Getting Scheduled?

To see if transaction scheduling is performing normally, begin by examining the following fields in IMSDTLGR view:

- Arrival Rate
- Sched Msgs

Next, proceed to ITRSUMR and ITRDTLR views, where you can gather more detailed information. An overview of how to proceed is shown in Figure 23.

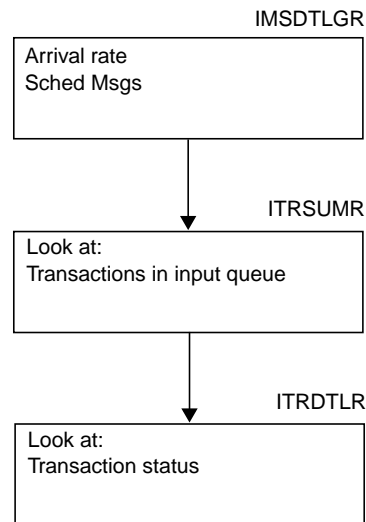


Figure 23. Views for Checking Transaction Scheduling

The fields you need to look at in IMSDTLGR view are highlighted in Figure 24.

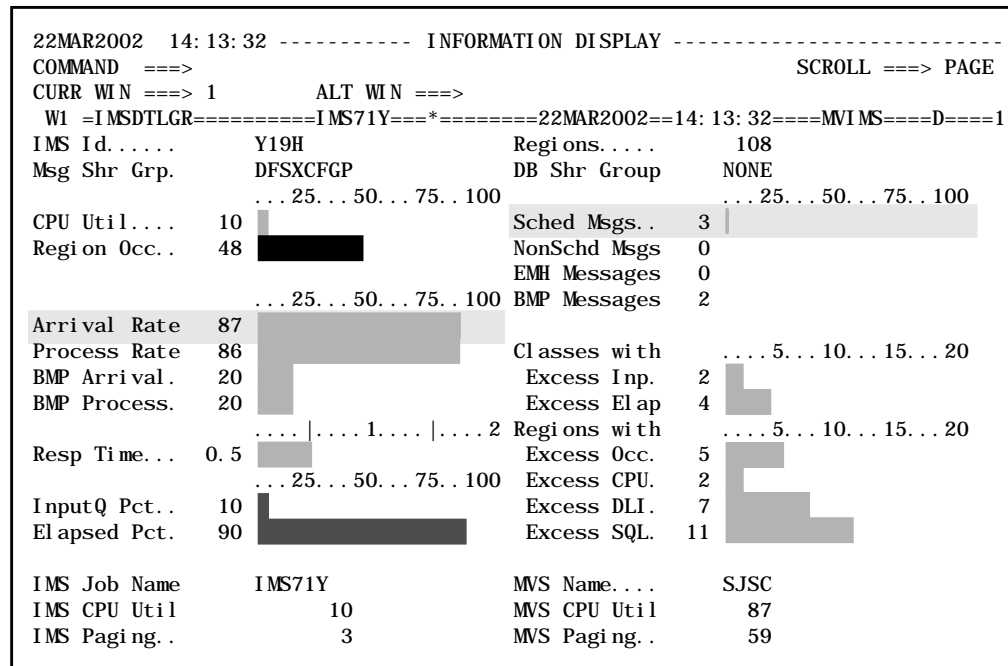


Figure 24. Fields for Checking Transaction Scheduling (IMSDTLGR View)

The highlighted fields indicate how many messages are arriving per second and how many messages are schedulable. If either or both of these values are not normal for your site, check the status of transactions in the input queue. You can do this by switching to ITRSUMR view, shown in Figure 25.

To display this view at any time, enter ITRSUMR on the command line or enter VIEWS and then select ITRSUMR from the resulting list of views.

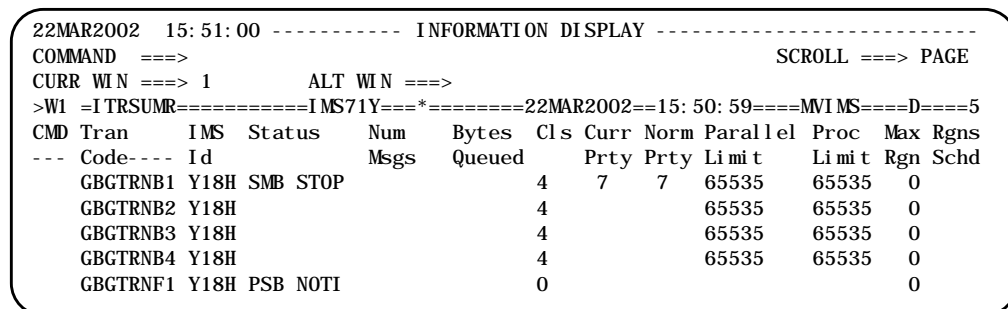


Figure 25. Transaction Queue Status View (ITRSUMR)

For more information about this view or any of its fields, select the view name on the window information line or select any field name and press your help key.

If you suspect that a transaction is not getting scheduled, hyperlink from that transaction in ITRSUMR view. That will take you to the Transaction Status Detail view (ITRDTLR), shown in Figure 26 on page 39. ITRDTLR view shows processing statistics and status for the selected transaction. You can use actions to change the scheduling attributes of transactions that are not getting scheduled.

```

22MAR2002 15:53:24 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =ITRDTLR=====IMS71Y==*=====22MAR2002==15:53:23====MVIMS====D====1
Tran Code..... GBGTRNB1 Status..... SMB STOPPED FOR QUEUEING
Tran Type..... MPP
PSB Name..... GBGPSBB1
IMS Id..... Y18H      Fast Path.... N
Messages Queued. 0 Message Type.. NONRESP
Bytes Queued.... 0          SNGLSEG
                        SPA..... 0
Class..... 4 Wait for Input N
Enabled Regions. 0
Schedule Rgns... 0
Priority- Normal 0
      Limit. 0
Queue Limit.... 65535
Process Limit... 65535
Parallel Limit.. 65535
Max Region..... 0

```

Figure 26. Transaction Status Detail View (ITRDTLR)

To display ITRDTLR view, enter ITRDTLR *tranid* on the command line (where *tranid* is the transaction you want to view).

For more information about the view or any of its fields, select the view name on the window information line or select any field name and press your help key.

Are BALGs Being Serviced Efficiently?

To see if Fast Path balancing groups (BALGs) are being serviced efficiently, begin by looking at the **EMH Messages** field in IMSDTLGR view, and then look at IBGSUMR view. See Figure 27 for a visual overview.

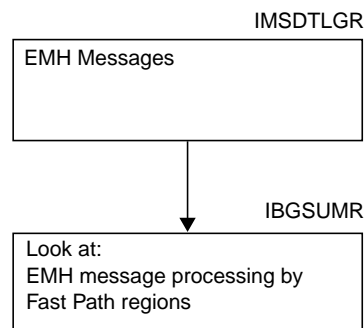


Figure 27. Views for Checking BALG Message Processing

Your starting point for checking BALG processing is the **EMH Messages** field in IMSDTLGR view. This field is highlighted in Figure 28 on page 40.

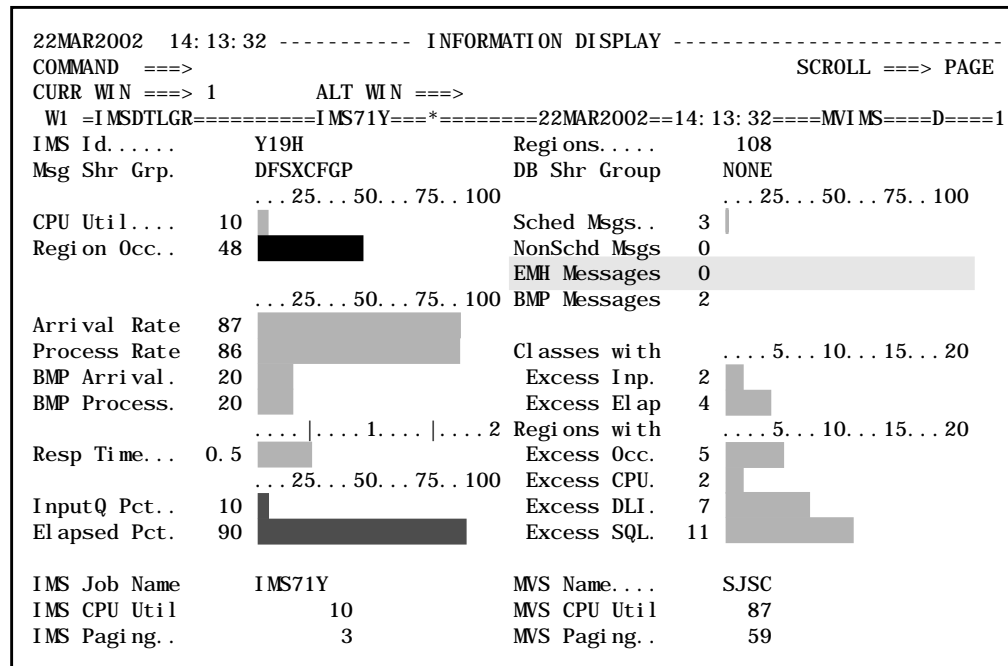


Figure 28. Field for Checking BALG Processing (IMSDTLGR View)

If the value shown in the EMH Messages field is high, the number of EMH messages queued is causing a delay in processing for the BALG.

To see how EMH messages are being processed by Fast Path regions, hyperlink from the EMH Messages field in IMSDTLGR view. That takes you to the EMH Message Processing view (IBGSUMR), shown in Figure 29.

This view can help you determine where a delay in BALG processing is occurring.

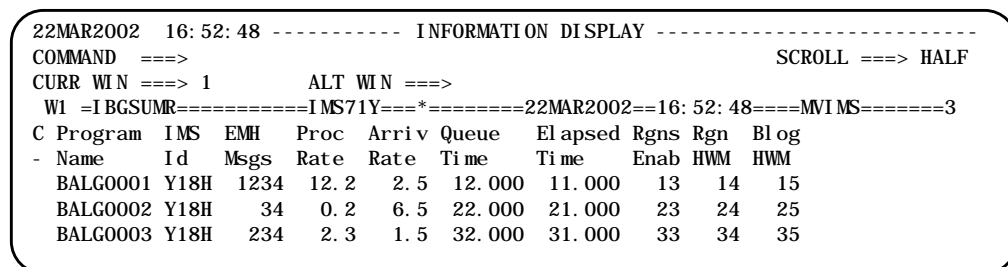


Figure 29. EMH Message Processing View (IBGSUMR)

You can display IBGSUMR view at any time by entering IBGSUMR on the command line. For more information about the view or any of its elements, select the view name on the window information line or select any field name and press your help key.

Is OS/390 Affecting IMS Performance?

If you have MAINVIEW for OS/390 installed, you can hyperlink from IMSDTLGR to OS/390 views that show you how OS/390 is affecting IMS performance. See Figure 30 for a visual overview.

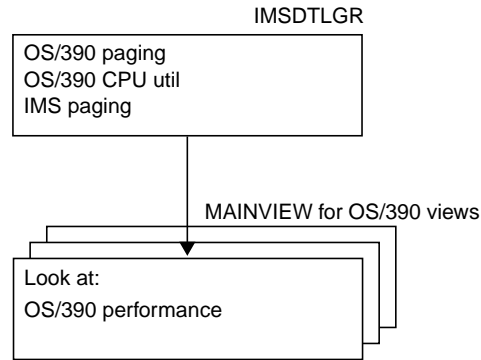


Figure 30. Views for Checking Effect of OS/390 Performance

The following fields in IMSDTLGR view are your starting points for checking to see if OS/390 is affecting performance:

- **MVS Paging**
Shows the number of page-ins and page-outs for the OS/390 where IMS is running.
- **MVS CPU Util**
Shows the percentage of CPU used by OS/390.
- **IMS Paging**
Shows the number of page-ins and page-outs for that IMS.

These three fields are shown in Figure 31 on page 42.

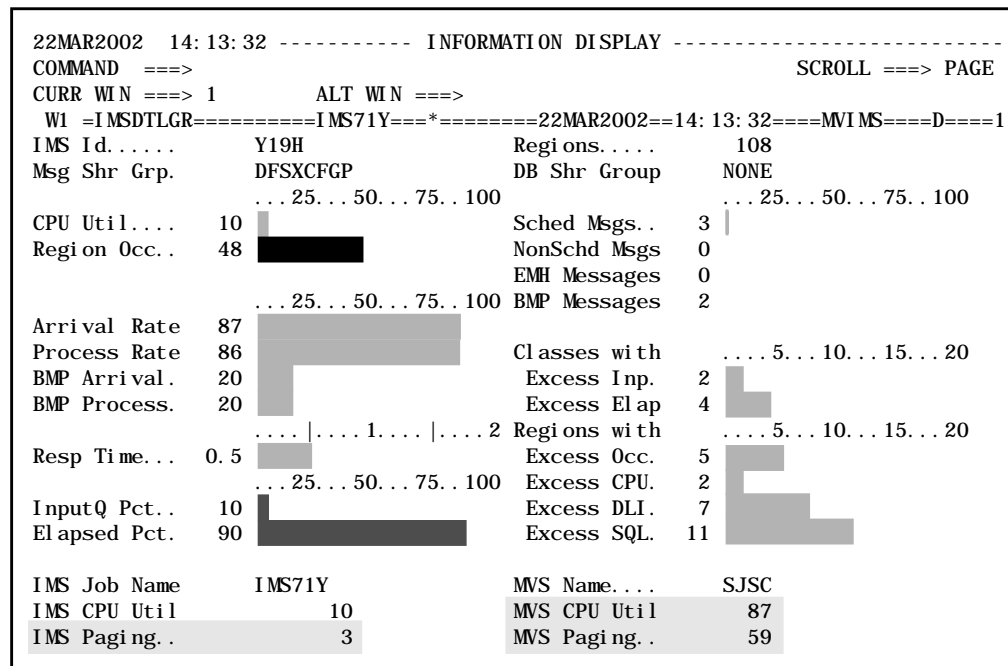


Figure 31. Fields for Checking OS/390 Processing

For more information about how to use OS/390 views, see the *MAINVIEW for OS/390 User Guide and Reference*.

Views for Workflow Management – Reference Section

This section lists all the IPSM views available to help you manage your IMS workflow. The views are grouped into categories, which are presented in alphabetical order:

- BALGs transaction processing
- Class activity
- IMS activity
- IMS sysplex activity
- Region occupancy
- Transaction processing

Each view category contains several different views. Their basic function is the same, with variations reflecting whether the data displayed is realtime or interval.

You can change the presentation of each view by context, scope, or filters. To see which of these apply to a particular view, refer to the online help. (For online help, position your cursor on the view name on the window information line and press your help key.) In some views you can take actions to make dynamic system changes. These actions are described in the online view help.

To meet your site's needs, you may wish to customize views and create screens made up of several views. See the *Using MAINVIEW* manual for a description of how to do this.

In the following pages, each section contains a table showing all views available for that view category. A sample realtime view follows the table, along with a brief description of what the view does. For more detailed information about the views or any of their fields, refer to the online help.

BALG Views

This section describes the Fast Path balancing group (BALG) views available to help you manage your IMS workflow. These views summarize the processing activity of the message queues for EMH transactions. Transaction processing can be summarized for a single IMS or OS/390, a data sharing group, or across any grouping you choose.

The following table lists all available BALG views. The views are similar except for the time period that samples are taken. (One view presents realtime data; the other view presents data collected during a specific time interval.)

Table 1. BALG Views

View description	Name	Type
EMH message processing	IBGSUMR	Realtime statistics about EMH processing (shown below)
	IBGSUM	Interval statistics

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and then press your help key.
- Enter HELP and the name of the view on the command line.

IBGSUMR View – EMH Message Processing

The view shown below is an example of a realtime BALG view. This view, along with the other view in this group, shows how Fast Path regions are processing EMH messages.

```
22MAR2002 16: 52: 48 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
WI =IBGSUMR=====IMS71Y=====22MAR2002==16: 52: 48====MVIMS=====3
C Program  IMS  EMH  Proc  Arriv Queue  Elapsed Rgns Rgn  Blog
- Name     Id   Msgs Rate Rate Time   Time   Enab HWM  HWM
  BALG0001 Y18H 1234 12.2  2.5 12.000 11.000  13  14  15
  BALG0002 Y18H  34  0.2  6.5 22.000 21.000  23  24  25
  BALG0003 Y18H 234  2.3  1.5 32.000 31.000  33  34  35
```

Figure 32. IBGSUMR - Sample BALG View

To display this view, enter IBGSUMR in any command line within IPSM, or enter VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing further, related information.

Class Activity Views

This section describes the class activity views available to help you manage your IMS workflow. These views break down IMS transaction processing into class workloads. Class processing can be summarized for a single IMS or OS/390, a data sharing group, or across any grouping you choose.

The following table lists all available class activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R present realtime data; the other views present data collected during a specific time interval.)

Table 2. Class Activity Views

View description	Name	Type
IMS class processing	ICLSUMR	Realtime summary of statistics about class processing
	ICLSUM	Interval summary of statistics
	ICLSUMGR	Realtime graph
	ICLSUMG	Interval graph
Data sharing group class occupancy	ICLSUMSR	Realtime summary of statistics about data sharing group class occupancy
	ICLSUMS	Interval summary of statistics
	ICLSUGSR	Realtime graph
	ICLSUGS	Interval graph
OS/390 class occupancy	ICLSUMMR	Realtime statistics about OS/390 class occupancy
	ICLSUMM	Interval statistics
	ICLSUGMR	Realtime graph
	ICLSUGM	Interval graph
Class detail activity	ICLDTLR	Realtime detail statistics about activity for a specific class
	ICLDTL	Interval detail statistics

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

ICLSUMR View – Class Occupancy

The view shown below is an example of a realtime class activity view. This view and the others in this group show all the classes defined to IMS, the level of service they are receiving, how much work is waiting to be processed, and how many processing resources the classes are using.

To see a detailed view of processing information for a specific class, position your cursor on the class number and press Enter.

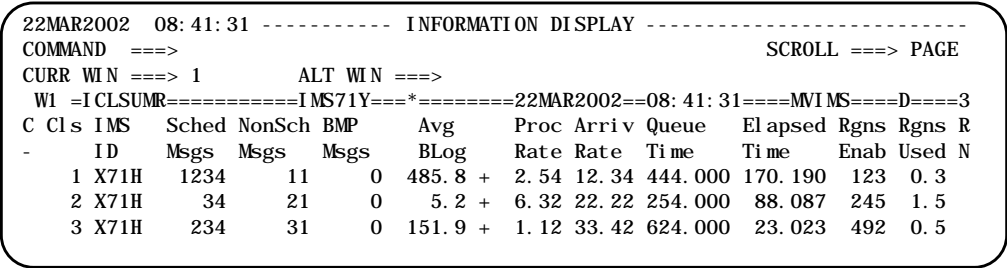


Figure 33. ICLSUMR - Sample Class Activity View

To display this view, enter ICLSUMR on any command line within IPSM or enter VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

IMS Activity Views

This section describes the IMS activity views available to help you manage your IMS workflow. These views provide IMS system information, showing you resource usage and workflow performance for a single IMS.

The following table lists all available IMS activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R present realtime data; the other views present data collected during a specific time interval.)

Table 3. IMS Activity Views

View description	Name	Type
IMS processing and resource usage	IMSDTLGR	Realtime statistics about IMS performance (shown below)
	IMSDTLG	Interval statistics
IMS detail	IMSDTLR	Realtime detail statistics about IMS performance
	IMSDTL	IMS detail

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

IMSDTLGR View – IMS Processing and Resource Usage

The view shown below is an example of a realtime IMS activity view. This view and the others in this group can help you determine if IMS is meeting its performance objectives. It shows you how critical resources, including application region processing, are being used by IMS.

The Resp Time, Process Rate, Sched Msgs, EMH Messages, and Classes with Excess Inp and Elap fields are all indicators of whether IMS is meeting general throughput and response time objectives.

If IMS is not meeting its objectives, you can check the Arrival Rate field to see if the workflow has increased. You can also check the OS/390 fields for indications of system resource competition.

22MAR2002 14:13:32 ----- INFORMATION DISPLAY -----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
WI =IMSDTLGR=====IMS71Y==*=====22MAR2002==14:13:32====MVIMS====D====1			
IMS Id.....	Y19H	Regions....	108
Msg Shr Grp.	DFSXCFCGP	DB Shr Group	NONE
	... 25... 50... 75.. 100		... 25... 50... 75.. 100
CPU Util....	10 *	Sched Msgs..	3
Region Occ..	48 *****	NonSched Msgs	0
		EMH Messages	0
	... 25... 50... 75.. 100	BMP Messages	2
Arrival Rate	87 *****		
Process Rate	86 *****	Classes with 5... 10... 15... 20
BMP Arrival.	20 ***	Excess Inp.	2 **
BMP Process.	20 ***	Excess Elap	4 ****
 1.... 2	Regions with 5... 10... 15... 20
Resp Time...	0.5 *****	Excess Occ.	5 *****
	... 25... 50... 75.. 100	Excess CPU.	2 **
InputQ Pct..	10 *	Excess DLI.	7 *****
Elapsed Pct.	90 *****	Excess SQL.	11 *****
IMS Job Name	IMS71Y	MVS Name....	SJSC
IMS CPU Util	10	MVS CPU Util	87
IMS Paging..	3	MVS Paging..	59

Figure 34. IMSDTLGR - Sample IMS Activity View

To display this view, enter IMSDTLGR on any command line within IPSM or enter VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

IMS Sysplex Activity Views

This section describes the IMS sysplex activity views available to help you manage your IMS workflow. These views show how well each IMS in the sysplex is processing its workflow and how much of your resources are being used by each IMS across a sysplex.

The following table lists all available IMS sysplex activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R present realtime data; the other views present data collected during a specific time interval.)

Table 4. IMS Sysplex Activity Views

View description	Name	Type
Sysplex performance by IMS	IMSPLXR	Realtime performance statistics for each IMS in the sysplex
	IMSPLX	Interval statistics
	IMSPLXGR	Realtime graph
	IMSPLXG	Interval graph
Sysplex performance by data sharing group	IMSPLSR	Realtime performance statistics for IMS data sharing groups
	IMSPLS	Interval statistics
	IMSPLSGR	Realtime graph
	IMSPLSG	Interval graph
Sysplex performance by OS/390	IMSPLMR	Realtime performance statistics for IMS system group by OS/390 system
	IMSPLM	Interval statistics
	IMSPLMGR	Realtime graph
	IMSPLMG	Interval graph
Sysplex performance by message sharing group	IMSPLGR	Realtime performance statistics for IMS message sharing groups
	IMSPLG	Interval statistics
	IMSPLGGR	Realtime graph
	IMSPLGG	Interval graph

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

IMSPLXR View – IMS Sysplex Performance

The view shown below is an example of a realtime IMS sysplex activity view. This view and the others in this group can help you analyze IMS performance across a sysplex. Resource statistics, such as CPU utilization, are aggregated for each IMS. Throughput statistics are for the entire workflow serviced by an IMS. These statistics represent IMS sysplex performance and service levels.

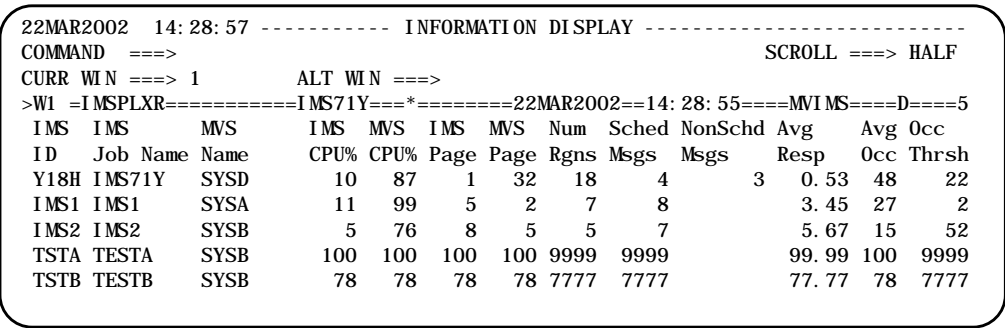


Figure 35. IMSPLXR – Sample IMS Sysplex Activity View

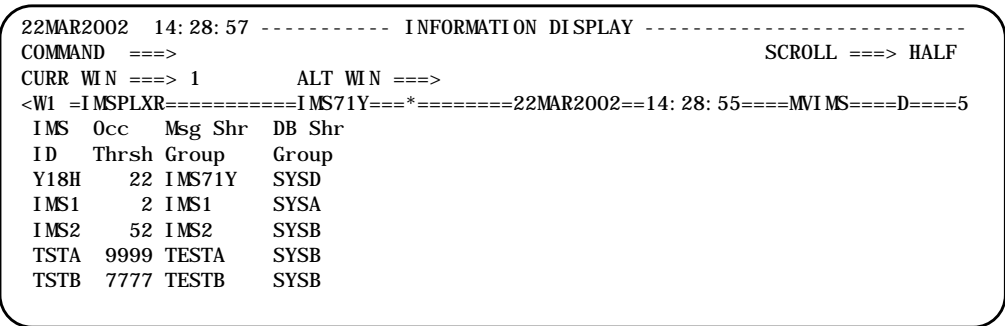


Figure 36. IMSPLXR – Sample IMS Sysplex Activity View, Scrolled Right

To display this view, enter **IMSPLXR** on any command line within **IPSM** or enter **VIEWS** on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

Region Occupancy Views

This section describes the Region Occupancy views available to help you manage your IMS workflow. These views summarize dependent region processing. They show how busy a region is, processing and scheduling transactions, and which workload the region is processing. Regions can be viewed for a single IMS or OS/390, a data sharing group, or across any grouping you choose.

The following table lists all available Region Occupancy views. The views are similar except for the time period that samples are taken. (Views with names ending in R present realtime data; the other views present data collected during a specific time interval.)

Table 5. Region Occupancy Views

View description	Name	Type
Region occupancy	IRGOCCR	Realtime statistics for region occupancy
	IRGOCC	Interval statistics
	IRGOCCGR	Realtime graph
	IRGOCCG	Interval graph
Region processing summary	IRGOVWR	Realtime summary of region processing statistics
	IRGOVW	Interval summary

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

IRGOCCR View – Region Occupancy

The view shown below is an example of a realtime Region Occupancy view. This view and the others in this group summarize dependent region processing by the region service provided to each class.

```

22MAR2002 08: 40: 33 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>WI =IRGOCCR=====IMS71Y==*=====22MAR2002==12: 29: 41====MVIMS====D====3
CM Reg Region Rgn Rgn MVS Proc Rgn Cls % Cls % Cls % Cls % Cls % Other
-- ID Name Typ CPU CPU Rate Occ Occ Occ Occ Occ Occ % Occ
    1 IMSM18Y MPP 2 91 0.4 63 1 63 2 0 3 0 4 0
    3 IMSM18Y MPP 2 91 0.4 62 1 62 2 0 3 0 4 0
    2 IMSM18Y MPP 2 91 0.4 62 1 62 2 0 3 0 4 0
  
```

Figure 37. IRGOCCR - Sample Region Occupancy View

To display this view, enter IRGOCCR on any command line within IPSM or enter VIEWS on any command line and select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

Transaction Processing Views

This section describes the Transaction Processing views available to help you manage your IMS workflow. These views summarize the processing activity of all the transactions in the input queue. Transaction processing can be summarized for a single IMS or OS/390, a data sharing group, or across any grouping you choose.

The following table lists all available transaction processing views. The views are similar except that one is a summary view and the other is a detail view.

Table 6. Transaction Processing Views

View description	Name	Type
Transaction queue status	ITRSUMR	Realtime summary of transaction statistics and scheduling parameters
Transaction status	ITRDTLR	Realtime detail

All views are described in the online view help. To see online view help, do one of the following:

- Position your cursor on the view name on the window information line and then press your help key.
- Enter HELP and the name of the view on the command line.

ITRSUMR – Transaction Queue Status

The view shown below is an example of a realtime Transaction Processing view. This view, and the ITRDTLR view, show scheduling and parameter status and region statistics for transactions in the input queue.

22MAR2002 15: 51: 00 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> HALF

CURR WIN ==> 1

ALT WIN ==>

>W1 =ITRSMR=====IMS71Y==*=====22MAR2002==15: 50: 59====MVIMS====D====5

CMD	Tran	IMS	Status	Num	Bytes	Cls	Curr	Norm	Parallel	Proc	Max	Rgns
---	Code---	Id		Msgs	Queued		PrtY	PrtY	Limit	Limit	Rgn	Schd
	GBGTRNB1	Y18H	SMB STOP			4	7	7	65535	65535	0	
	GBGTRNB2	Y18H				4			65535	65535	0	
	GBGTRNB3	Y18H				4			65535	65535	0	
	GBGTRNB4	Y18H				4			65535	65535	0	
	GBGTRNF1	Y18H	PSB NOTI			0					0	

Figure 38. ITRSUMR - Sample Transaction Processing View

To display this view, enter ITRSUMR on any command line within IPSM or enter VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted in the view, you can hyperlink from that field to another view containing more information.

Chapter 5. Controlling Transaction Response Time and Delays

This chapter shows you how to use IPSM components of response time (CORT) views to analyze and control transaction response time and delays. A visual overview is given in Figure 39 on page 56. This is followed by a discussion of how to use IPSM Transaction Delay Analysis and Transaction Response Analysis views to answer the following questions:

- Where are delays occurring?
- Which events are contributing to response time?

IPSM provides response time analysis views about IMS transactions that have completed or are in progress. These views help you identify quickly why transaction response time is not meeting your expectations—so you can improve it.

You can use these views to see

- Processing delays incurred by a transaction when it tries to obtain a resource
- The resource associated with the delay
- IMS processing events occurring as transactions flow through the system (so you can see events that contribute to transaction response time)

IPSM also helps you analyze why a VistaPoint workload is not meeting its objective. It lets you view transaction processing delays and events within a workload

The information in IPSM views is hierarchical. Lower-level views give further, more detailed information related to that shown at a higher level.

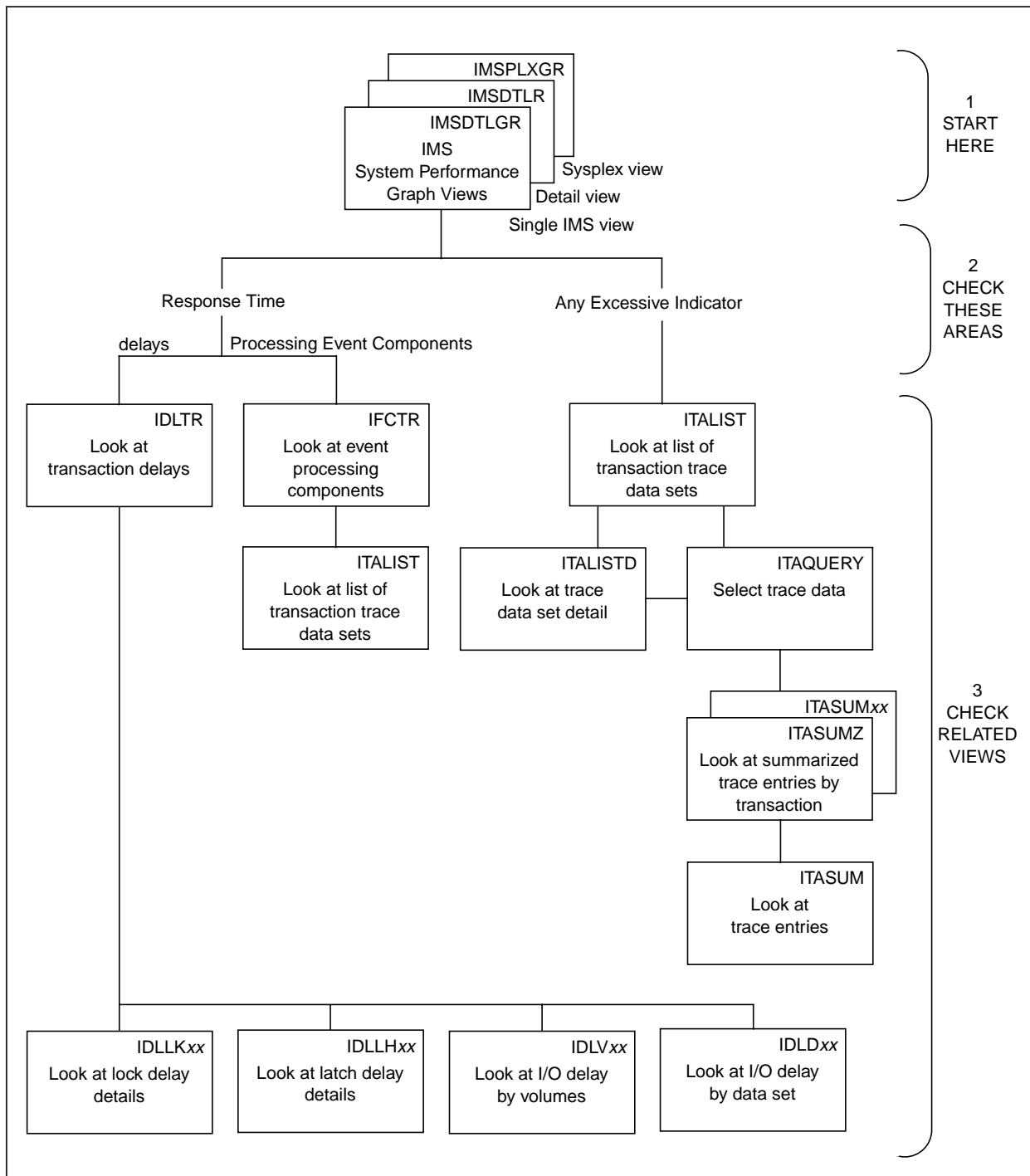


Figure 39. Using IPSM Views to Control IMS Response and Delays

Analyzing Response Time Problems

You can use IMSDTLGR view to launch an investigation into response time problems. From IMSDTLGR view, you can hyperlink to other views showing you transaction delays, processing events, or a trace of transaction occurrences (see Figure 39 on page 56).

To investigate slow response time, you might start with the following views:

- IDLTR view - IMS delays by transaction

This view shows the major causes of delays for all IMS transactions or by workload. It identifies a delay when a transaction is waiting for a resource, and it provides a hyperlink to related views showing more detailed information.

- IFCTR view - IMS processing events by transaction

This view shows the major transaction flow components that affect response time for all IMS transactions or a workload. From here you can hyperlink to other views to get more information about where transactions are spending their time.

Where Are Delays Occurring?

If Resp Time is high in IMSDTLGR view, as shown in Figure 40, it could be because a transaction is waiting for a resource.

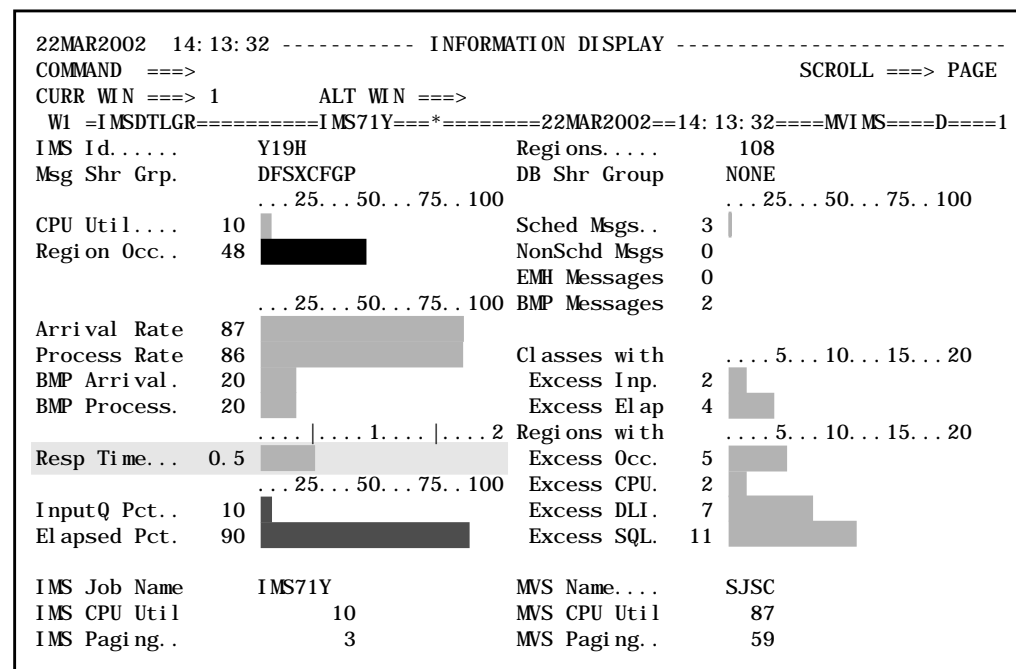


Figure 40. Response Time Field as an Indicator of Transaction Delays

If Resp Time is high, select this field and hyperlink from it to IDLTR view. IDLTR shows you the delays contributing to transaction response time. (This path of investigation is shown in Figure 41 on page 58.)

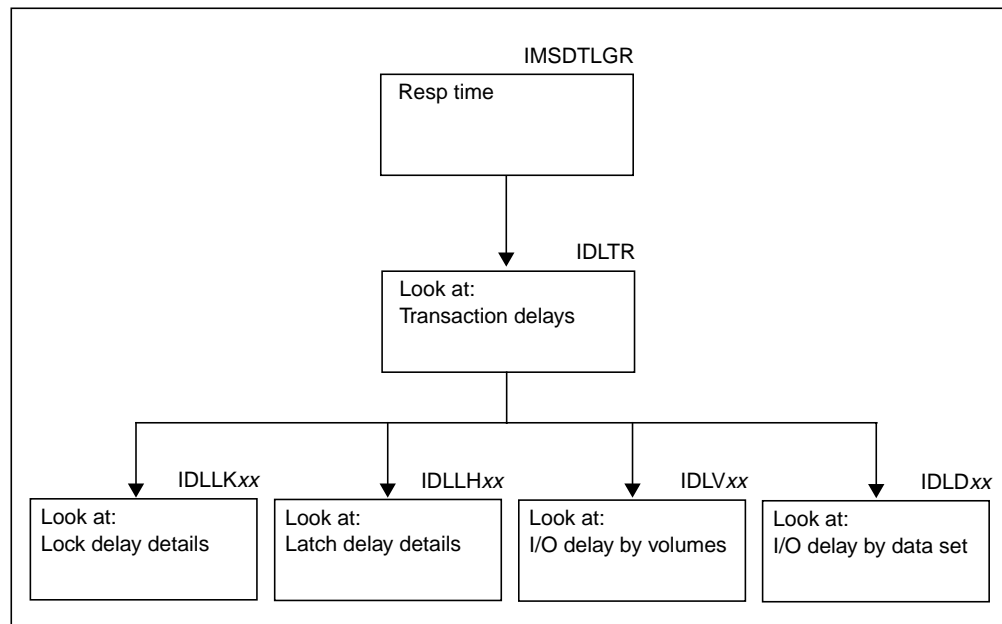


Figure 41. Views for Determining Where Delays Are Occurring

Viewing Transaction Delays

You can use the IDLTR view, shown in Figure 42, to

- Quickly classify whether delays are caused by region availability waits or processing delays
- Identify whether eliminating any of the delay factors would improve response time to the level you want
- Hyperlink to delay details about
 - Locks
 - Latches
 - I/O
 - Pools
 - Other kinds of delays

to look for possible causes.

```

22MAR2002 16: 07: 09 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =IDLTR=====IMS71Y=====22MAR2002==16: 07: 08====MVIMS====D====4
CMD Trancode IMS      Avg Resp  %Inp %CPU %CPU %I/O %Lck %Lth %Pol %Oth %DB2
--- ---- ID      0. . | . . . 3 Que Act Dly Dly Dly Dly Dly Dly
  TDRIVER Y18H 3. 24 *****+ 34 26 3 9 5 0 1 22
  THISMINQ Y18H 1. 47 ***** 8 9 6 25 26 1 0 24
  THDAMINQ Y18H 0. 21 ** 22 9 39 13 0 28
  THIDMINQ Y18H 0. 10 * 46 28 17 3 9 1 21
  
```

Figure 42. IDLTR View

This view shows all transactions processed. For each transaction processed, you can see how much input queue and elapsed execution time contributed to a transaction’s response. If a delay field is highlighted, you can hyperlink from it to a more detailed view about that delay. For a detailed description of this view, see “IDLTR – Transaction Delays” on page 65.

Which Events Are Contributing to Response Time?

In addition to looking for delays when IMSDTLGR shows a high response time, as described previously, you can also look for transaction processing events that are contributing the most to response time. Proceed from IMSDTLGR to IFCTR view, as shown in Figure 43.

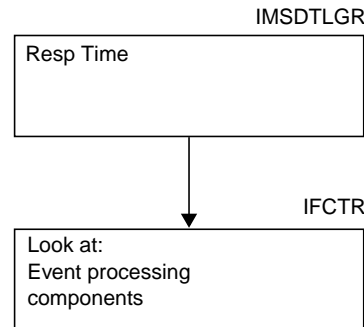


Figure 43. Views for Evaluating Transaction Processing Events

View Transaction Processing Events

To request a view of processing events for all transactions, enter IFCTR on the command line, select it from a list of views with the VIEWS command, or access it from a menu option.

22MAR2002 16: 07: 09 ----- INFORMATION DISPLAY -----											
COMMAND ==>						SCROLL ==> CSR					
CURR WIN ==> 1			ALT WIN ==>								
>W1 =IFCTR=====IMS71Y=====22MAR2002==16: 07: 08====MVI MS====D====5											
CMD	Trancode	IMS	Avg	Avg %Input Q			Avg %El apse		Avg %	Avg %	Avg %
---	-----	ID	Resp	0 50 . . 100			0 50 . . 100		Appl	DLI	DB2
---	-----	---	----	-----			-----		----	----	----
	TDRI VER	X71H	17. 4K	100			*****		92		8
	THI SMI NQ	X71H	2. 13	51	*****		49		*****	1	49
	THDAMUPD	X71H	1. 31	98	*****		2			2	
	THI SMUPD	X71H	1. 16	89	*****		11 **			11	
	THI DMUPD	X71H	1. 11	98	*****		2			2	

Figure 44. IFCTR View

You can use this view to

- Identify IMS processing events contributing to transaction response time
- Hyperlink from highlighted fields to details about the events that occurred to determine the major contributors to response time

For example, if Avg DLI is high, you can hyperlink from that field to view DL/I execution events to determine the cause of the long execution.

For more information about these kinds of views, see “Views for Transaction Delay Analysis” on page 63.

View a List of Completed Transaction Traces

You can view a list of completed transaction traces for

- A transaction displayed in the IFCTR view
- Any abnormal indicator displayed in the IMSDTLGR view, as shown in Figure 45

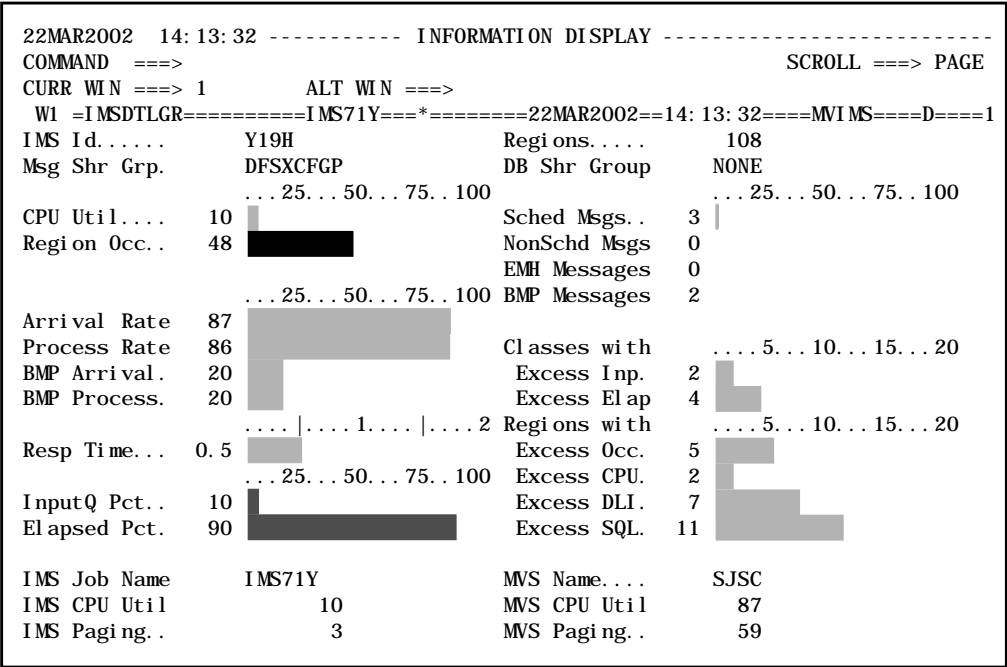


Figure 45. Checking All IMSDTLGR Fields for Any Abnormal Indicator

You can also view a list of completed transaction traces recorded in historical trace log data sets. You can do this by accessing ITALIST view from either IFCTR or IMSDTLGR view. These two alternative paths for arriving at ITALIST view are shown in Figure 46.

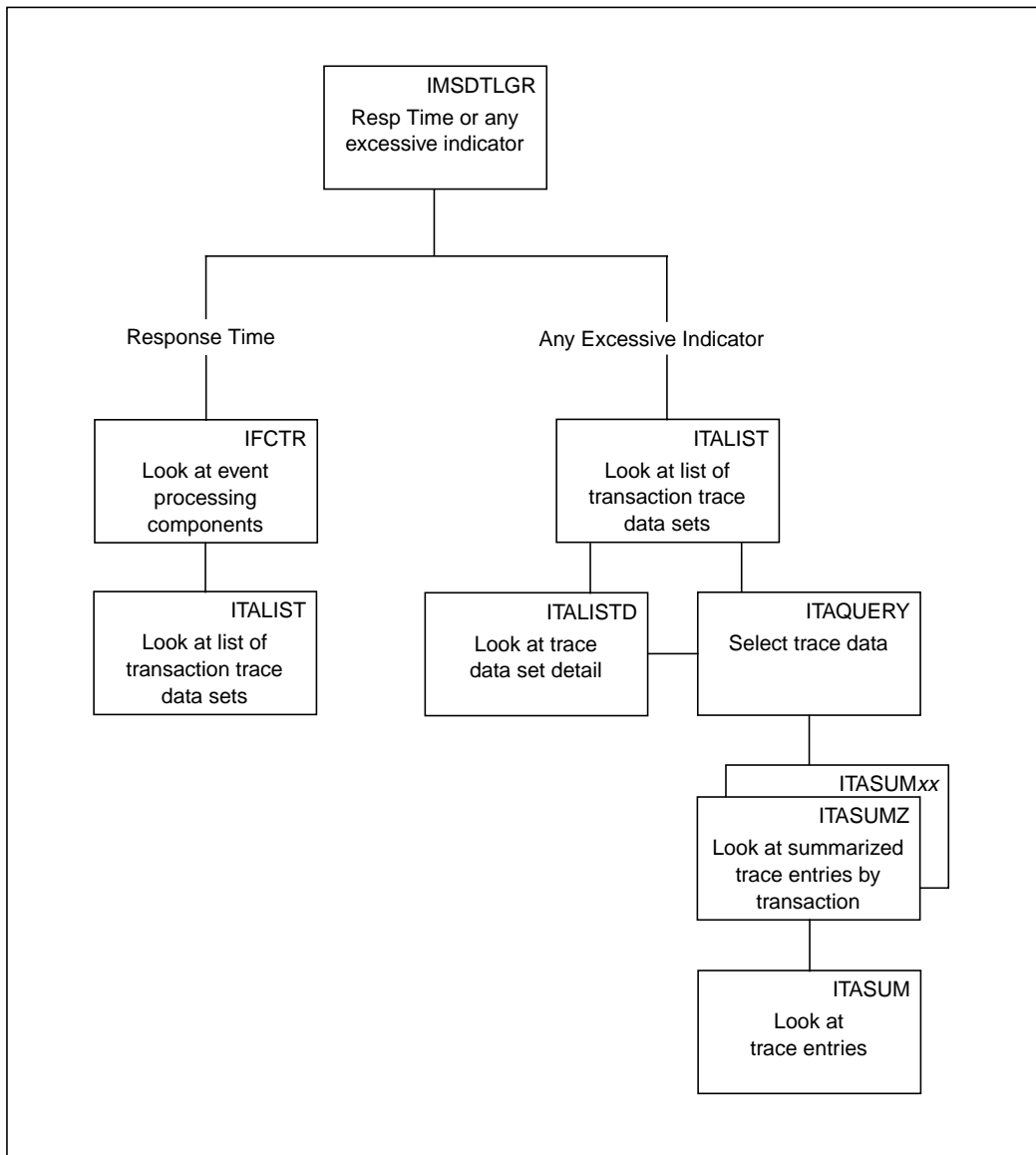


Figure 46. Views for Checking Completed Transaction Traces

ITALIST is also available as a menu option in the IMS Easy Menu (EZIMS). ITALIST is shown below.

```

22MAR2002 07:39:52 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>WI =ITALIST=====IMS71Y=====22MAR2002==07:21:40====MVIMS=====5
      End   Number
End Date  Time   Trans Trace Id Trace Title      Type State Status Jobname
22MAR2002 09:45  35032 ABR3     ABR3     ABBREVIATED TRACE  Abr  Hi st      IMS61Y
22MAR2002 12:38  15541 ABR3     ABR3     ABBREVIATED TRACE  Abr  Hi st      IMSMAINT
22MAR2002 10:46   2264 TEST     TEST     WORKLOAD TRACE     Sum  Hi st      IMS71H
22MAR2002 11:01   1586 DETHST    DETHST    DETAIL TRACE       Det  Hi st      I7AM33CT

```

Figure 47. ITALIST View

This group of views helps you analyze transaction performance. You can use it to obtain more information for further analysis by hyperlinking from it to

- An expanded view for more details about the transactions recorded in the trace
- A trace query view where you can formulate a query request to see only specific data that you want

For more information about tracing transactions, see Chapter 6, “Examining a User Application” on page 101.

Views for Transaction Delay Analysis

This section lists all the views available to help you manage transaction elapsed time. The views are grouped into the following categories:

- Transaction Delays
- Database I/O Delays
- Data set I/O Delays
- Volume I/O Delays
- Lock Delays
- Latch Delays

Measured data is presented by these views in textual and/or graphical form. Scrolling right presents more data for that view. You can restrict view presentation by context, scope, or filters. (To see which of these applies for a view, select the view name on the window information line inside the view and press your help key.)

To analyze transaction delays, start your analysis with IDLTR view. This view shows all transactions and allows you to see the delays that contributed to each transaction's response time. If a transaction shows an unusual response time, select the transaction and hyperlink from it to an Easy Menu. The Easy Menu will provide you with the following view options:

- Transaction delays (see Table 7 on page 64)
- Database I/O delays by transaction, PSB, IMS, volume, or data set (see Table 8 on page 71)
- Data set I/O delays by transaction, PSB, IMS, or volume (see Table 9 on page 75)
- Volume I/O delays by transaction, PSB, or IMS (see Table 10 on page 79)
- Pool delays (see page 70)
- Lock delays by transaction, PSB, IMS, or data set (see Table 11 on page 83)
- Latch delays by transaction, PSB, or IMS (see Table 12 on page 86)
- Other kinds of delays (see page 69)

As described in the *Using MAINVIEW* manual, you can customize views and create screens that include several views to meet your site's needs.

The information presented in these views correlates event and sample data. The accuracy of the statistical analysis depends upon the number of observations made. In all these views, a Confidence Level column is included to reflect the accuracy of the analysis. If information shows a none confidence level, do not spend time analyzing that information.

Transaction Delays

The table below lists all the views available for transaction delays. Descriptions of each view follow on the referenced pages.

Table 7. Transaction Delay Views

View	Name
Major transaction delays	IDLTR (see page 65)
I/O delays	IDLTRIO (see page 66)
Latch delays	IDLTRLH (see page 67)
Lock delays	IDLTRLK (see page 68)
Other kinds of delays	IDLTROT (see page 69)
Pool delays	IDLTRPL (see page 70)

IDLTR – Transaction Delays

22MAR2002 16: 07: 09 ----- INFORMATION DISPLAY -----													
COMMAND ==>										SCROLL ==> HALF			
CURR WIN ==> 1					ALT WIN ==>								
>W1 =IDLTR=====IMS71Y==*=====22MAR2002==16: 07: 08====MVIMS====D====4													
CMD	Trancode	IMS		Avg Resp	%Inp	%CPU	%CPU	%I/O	%Lck	%Lth	%Pol	%Oth	%DB2
---	-----	ID		0... ...3	Que	Act	Dly	Dly	Dly	Dly	Dly	Dly	Dly
	TDRI VER	Y18H	3. 24	*****+	34	26	3	9	5	0	1	22	
	THI SMI NQ	Y18H	1. 47	*****	8	9	6	25	26	1	0	24	
	THDAMI NQ	Y18H	0. 21	**	22	9	39	13		0		28	
	THI DMI NQ	Y18H	0. 10	*	46	28	17	3	9	1		21	

Figure 48. IDLTR View

You can access this view by

- Hyperlinking from the IMSDTLGR Resp Time field
- Entering IDLTR on the command line
- Selecting the name from a list of views with the VIEWS command

A highlighted field label indicates you can select the field to hyperlink to a more detailed view.

Average response time is broken down into percentages of response time that the transaction spent in the input queue and in execution. This allows you to quickly determine whether there is a problem and whether it is occurring in workflow (%Inp Que) or in a processing event (%Elap). The other columns break down the delays that occurred. A high percentage shown by any of these indicates where a potential problem could exist. For example, if the I/O delay percentage is high, the transaction may be waiting for a device. Hyperlinking from %I/O Dly provides a more detailed view of I/O delays to help you determine potential causes.

Hyperlinking from a field in the first column of the IDLTR view presents a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to response time for the scheduled transaction.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLTRIO – I/O Delays by Transaction

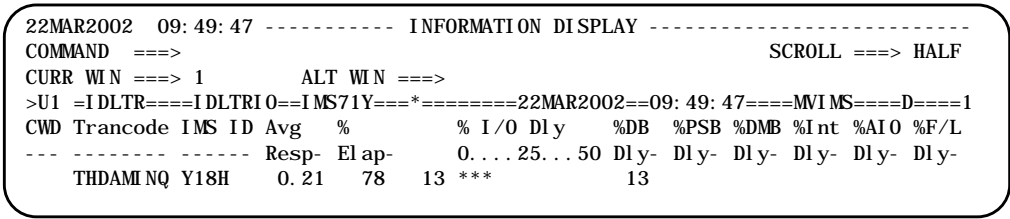


Figure 49. IDLTRIO View

You can access this view to see I/O event contributors to transaction elapsed time by hyperlinking from a

- %I/O Dly field in the IDLTR view of transaction delays
- Transaction code in the Trancode column of the IDLTR view of transaction delays, and then selecting the I/O delays option from a menu

This view shows, for each transaction processed, what percentage of elapsed time an I/O event contributed to a transaction’s response. It identifies any I/O activity delays that occurred for

- Database reads and writes
- PSB reads for programs
- DMB reads for a database
- Intent list reads for a program
- Program fetch
- Log Write Ahead calls

Hyperlinking from %DB Dly provides more details about database delays. Hyperlinking from a field in the first column of the IDLTRIO view displays a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to response time.

For online help, position the cursor on the name of the view or any field, and then press the help key.

DLTRLH – Latch Delays by Latch

```

22MAR2002 11:35:13 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>WI =IDLTR====IDLTRLH==IMS71Y==*=====22MAR2002==11:35:12====MVIS====D====1
CMD Trancode IMS      Latch ID      Avg % Dly      Min  Max  Confidence PSBName
--- ---- ID      ----- 0....5....10 %Dly %Dly Level -----
      THIDMINQ X18H      <MISC...> 1 *              1    1 None      PHIDMINQ

```

Figure 50. IDLTRLH View

You can access this view by hyperlinking from the

- %Lth Dly field in the IDLTR view of transaction delays
- Trancode field in the IDLLHTR view of latch delays by transaction to see what latch delays contributed to elapsed time.

This view shows the transactions being delayed by latch waits and the effect each latch has on response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about latch delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLTRLK – Lock Delays by Transaction

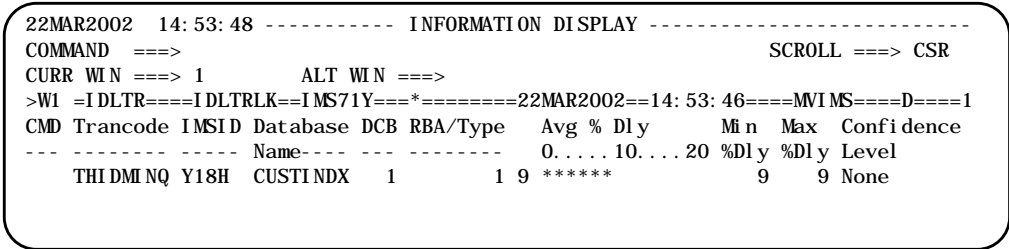


Figure 51. IDLTRLK View

You can access this view by hyperlinking from the %Lck Dly field in the IDLTR view of transaction delays to see what lock delays contributed to elapsed time.

This view shows the transactions being delayed by lock waits and the effect each resource has on response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about lock delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLTROT – Other Delays by Transaction

```
22MAR2002 10:43:28 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>WI =IDLTR====IDLTROT==IMS71Y==*=====22MAR2002==10:43:27====MVIMS====D====1
CMD Trancode IMS ID Avg %          % Other Dly DBIn Mi sc DynA IRLM DBRC DB2
--- ----- Resp- Elap      0...25...50 Dly- Dly Dly- Dly- Dly- Dly
      THIDMINQ X18H      0.10 54 21 ****              14
```

Figure 52. IDLTROT View

You can access this view by hyperlinking from the %Oth Dly field in the IDLTR view of transaction delays to see the effect on response time caused by delays other than those due to I/O activity, pool, latch, or lock waits.

IDLTROT view identifies any delays that occurred for

- Database intent, allocation, open, and recovery control
- IRLM
- Command execution
- AO requests
- Fast path
- Log buffer
- DB2

Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about transaction delays and response.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLTRPL – Pool Delays by Transaction

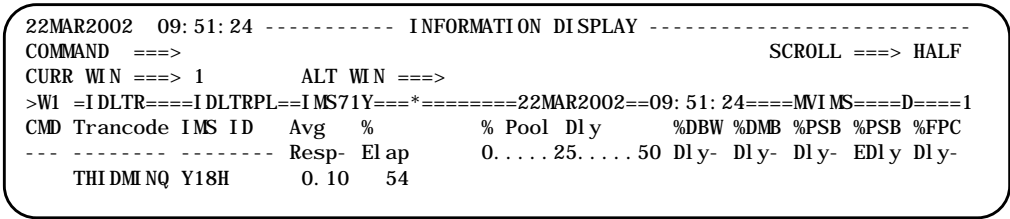


Figure 53. IDLTRPL View

You can access this view by hyperlinking from the %Pool Dly field in the IDLTR view of transaction delays to see what pool delays contributed to elapsed time.

This view shows, for each transaction processed, what percentage of elapsed time a storage wait for a pool contributed to a transaction’s response. It identifies any delays that occurred for the following pool storage:

- DBWP
- DMBP
- PSB
- Extended private area of a PSB pool
- FPCB

Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about pool delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Database I/O Delays

The table below lists all the views available for database I/O delays. Descriptions of each view follow on the referenced pages.

Table 8. Database I/O Delay Views

View	Name
I/O delays by database	IDLDB (below)
Database I/O delays by class	IDLDBC (see page 72)
Database I/O delays by data set	IDLDBD (see page 72)
Database I/O delays by IMS	IDLDBI (see page 73)
Database I/O delays by PSB	IDLDBP (see page 73)
Database I/O delays by transaction	IDLDBTR (see page 74)
Database I/O delays by volume	IDLDBV (see page 74)

IDLDB – I/O Delays by Database

```

22MAR2002 09: 20: 18 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>WI =IDLDB=====IMS71Y==*=====22MAR2002==09: 20: 18====MVI MS====D====2
CMD DB Name      %I /O Dly      Mi n  Max  Vol Ser  Workload  Confidence
---  ---
      0. . . 15. . . 30 %Dly %Dly  -----
CUSTHDAM  5  **              3    7  BAB326  ALL_IMS  None
<Mi sc. . >  1              0    2  <Mi sc.  ALL_IMS  None
  
```

Figure 54. IDLDB View

This view shows the databases causing I/O delays and their impact on response time. If the I/O delay percentage is high for a database, you can hyperlink from it to a menu. This menu allows you to choose more detailed delay views to help you determine the cause and impact of database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBC – Database I/O Delays by Class

22MAR2002 09: 28: 17 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> HALF

CURR WIN ==> 1

ALT WIN ==>

>W1 =IDLDBC=====IMS71Y=====22MAR2002==09: 28: 16====MVIMS====D====4

CMD	DB Name	Cl s	%I /O Dly	Min	Max	Vol Ser	Confidence
----	-----	----	0. . . . 15. . . 30	%Dly	%Dly	-----	Level
	<Mi sc. . >	1	2 *		2	2	<Mi sc. None
	<Mi sc. . >	2	1		0	1	<Mi sc. None
	CUSTHDAM	1	7 ***		7	7	BAB326 None
	CUSTHDAM	2	3 *		3	3	BAB326 None

Figure 55. IDLDBC View

This view shows the databases causing I/O delays and the impact on the classes using them. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBD – Database I/O Delays by Data Set

22MAR2002 09: 38: 38 ----- INFORMATION DISPLAY -----

CMD COMMAND ==>

CURR WIN ==> 1

ALT WIN ==>

SCROLL ==> HALF

>W1 =IDLDBD=====IMS71Y=====22MAR2002==09: 38: 37====MVIMS====D====2

CMD DB Name DD Name %I /O Dly Min % Max % Vol Ser Confidence

----- 0. . . . 15. . . 30 Dly-- Dly-- ----- Level

<Mi sc. . > <Mi sc. . > 1 0 2 <Mi sc. None

CUSTHDAM CUSTHDAM 5 ** 3 7 BAB326 None

Figure 56. IDLDBD View

This view breaks down the database I/O delays by the data sets used. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

Note: For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBI – Database I/O Delays by IMS

```
22MAR2002 09:32:19 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDBI=====IMS71Y==*=====22MAR2002==09:32:18====MVI MS====D====2
CMD DB Name  IMS ID      %I/O Dly      Mi n  Max  Vol Ser  Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Mi sc. . > X18H        1          0      2 <Mi sc. None
CUSTHDAM X18H          5 **          3      7 BAB326 None
```

Figure 57. IDLDBI View

This view shows the databases causing I/O delays and the impact on the IMS using that database. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBP – Database I/O Delays by PSB

```
22MAR2002 09:22:04 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDBP=====IMS71Y==*=====22MAR2002==09:22:04====MVI MS====D====5
CMD DB Name  PSBName      %I/O Dly      Mi n  Max  Vol Ser  Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Mi sc. . > PHIDMUPD      1          1      1 <Mi sc. None
<Mi sc. . > PHISMINQ      2 *          2      2 <Mi sc. None
<Mi sc. . > PHISMUPD      0          0      0 <Mi sc. None
CUSTHDAM PHDAMINQ      7 ***          7      7 BAB326 None
CUSTHDAM PHDAMUPD      3 *          3      3 BAB326 None
```

Figure 58. IDLDBP View

This view shows the databases causing I/O delays and the impact on the PSBs using them. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBTR – Database I/O Delays by Transaction

```
22MAR2002 09: 53: 03 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDBTR=====IMS71Y====*=====22MAR2002==09: 53: 02====MVIMS====D====5
CMD DB Name  Trancode  %I/O Dly  Mi n  Max  PSBName  Cl s  Vol Ser  Confidence
-----
0. . . . 15. . . 30 %Dly %Dly Level
<Mi sc. . > THIDMUPD  1          1    1 PHIDMUPD  2 <Mi sc. None
<Mi sc. . > THISMINQ  2 *          2    2 PHISMINQ  1 <Mi sc. None
<Mi sc. . > THISMUPD  0          0    0 PHISMUPD  2 <Mi sc. None
CUSTHDAM THDAMINQ  7 ***          7    7 PHDAMINQ  1 BAB326 None
CUSTHDAM THDAMUPD  3 *          3    3 PHDAMUPD  2 BAB326 None
```

Figure 59. IDLDBTR View

This view shows the databases causing I/O delays and the impact on each transaction using them. Hyperlinking from a field in the first column of the IDLDBTR view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDBV – Database I/O Delays by Volume

```
22MAR2002 09: 37: 39 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDDC==IDLDBV====IMS71Y====*=====22MAR2002==09: 37: 39====MVIMS====D====1
CMD DB Name  Vol Ser  %I/O Dly  Mi n  Max  Confidence
-----
0. . . . 15. . . 30 %Dly %Dly Level
CUSTHDAM BAB326  5 **          3    7 None
```

Figure 60. IDLDBV View

You can access this view by hyperlinking from a Vol Ser field in the IDLDDC view of data set I/O delays by class. This view breaks down the database I/O delays by the volumes used. You can use it to see if a volume is the cause of a database I/O delay. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to obtain more detailed information about database I/O delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Data Set I/O Delays

The table below lists all the views available for data set I/O delays. Descriptions of each view follow on the referenced pages.

Table 9. Data Set I/O Delay Views

View	Name
I/O delays by data set	IDLDD (below)
Data set I/O delays by class	IDLDDC (see page 76)
Data set I/O delays by IMS	IDLDDI (see page 76)
Data set I/O delays by PSB	IDLDDP (see page 77)
Data set I/O delays by transaction	IDLDDTR (see page 77)
Data set I/O delays by volume	IDLDDV (see page 78)

IDLDD – I/O Delays by Data Set

```

22MAR2002 09: 42: 23 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLDD=====IMS71Y==*=====22MAR2002==09: 42: 23====MVI MS====D====2
CMD DD Name %I/O Dly Min Max VolSer Confidence
----- 0. . . 15. . . 30 %Dly %Dly ----- Level
CUSTHDAM 5 ** 3 7 BAB326 None
<Mi sc. . > 1 0 2 <Mi sc. None

```

Figure 61. IDLDD View

This view shows the data sets causing I/O delays and their impact on response time. Hyperlinking from a field in the first column of this view presents a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a long data set I/O delay.

Note: For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDDC – Data Set I/O Delays by Class

```
22MAR2002 09:54:58 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDDC=====IMS71Y=====22MAR2002==09:54:58====MVIMS====D====4
CMD DD Name Cls %I/O Dly Min Max Vol Ser Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Misc. .> 1 2 ** 2 2 <Misc. None
<Misc. .> 2 1 0 1 <Misc. None
CUSTHDAM 1 7 *** 7 7 BAB326 None
CUSTHDAM 2 3 ** 3 3 BAB326 None
```

Figure 62. IDLDDC View

This view shows the data sets causing I/O delays and the impact on the classes using them. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDDI – Data Set I/O Delays by IMS

```
22MAR2002 09:57:24 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDDI=====IMS71Y=====22MAR2002==09:57:10====MVIMS====D====2
CMD DD Name IMS ID %I/O Dly Min Max Vol Ser Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Misc. .> X18H 1 0 2 <Misc. None
CUSTHDAM X18H 5 ** 3 7 BAB326 None
```

Figure 63. IDLDDI View

This view shows the data sets causing I/O delays and the impact on the IMS using that data set. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDDP – Data Set I/O Delays by PSB

```
22MAR2002 09:56:08 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =IDLDDP=====IMS71Y====*=====22MAR2002==09:55:40====MVIMS====D=====5
CMD DD Name PSBName      %I/O Dly      Mi n Max Vol Ser Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Mi sc. . > PHIDMUPD      1              1 1 <Mi sc. None
<Mi sc. . > PHISMINQ      2 **              2 2 <Mi sc. None
<Mi sc. . > PHISMUPD      0              0 0 <Mi sc. None
CUSTHDAM PHDAMINQ      7 ***              7 7 BAB326 None
CUSTHDAM PHDAMUPD      3 **              3 3 BAB326 None
```

Figure 64. IDLDDP View

This view shows the data sets causing I/O delays and the impact on the PSBs using them. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDDTR – Data Set I/O Delays by Transaction

```
22MAR2002 09:54:01 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =IDLDDTR=====IMS71Y====*=====22MAR2002==09:54:00====MVIMS====D=====5
CMD DD Name Trancode     %I/O Dly      Mi n Max Vol Ser Confidence
-----
0...15...30 %Dly %Dly ----- Level
<Mi sc. . > THIDMUPD      1              1 1 <Mi sc. None
<Mi sc. . > THISMINQ      2 *              2 2 <Mi sc. None
<Mi sc. . > THISMUPD      0              0 0 <Mi sc. None
CUSTHDAM THDAMINQ      7 ***              7 7 BAB326 None
CUSTHDAM THDAMUPD      3 *              3 3 BAB326 None
```

Figure 65. IDLDDTR View

This view shows the data sets causing I/O delays and the impact on each transaction using them. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLDDV – Data Set I/O Delays by Volume

```
22MAR2002 09: 50: 23 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDD====IDLDDV====IMS71Y====*=====22MAR2002==09: 50: 23====MVIMS====D====1
CMD DD Name  Vol Ser    %I/O Dly    Mi n  Max  Confi dence
-----
          0. . . 15. . . 30 %Dly %Dly Level
          CUSTHDAM BAB326  5 **              3    7 None
```

Figure 66. IDLDDV View

You can access this view by hyperlinking from the VolSer field in the

- IDLDD view of I/O delays by data set
- IDLDDI view of data set I/O delays by IMS
- IDLDDP view of data set I/O delays by PSB
- IDLDDTR view of data set I/O delays by transaction

This view breaks down the data sets causing I/O delays by the volumes used. You can use it to see if a volume is the cause of a data set I/O delay. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Volume I/O Delays

The table below lists all the views available for volume I/O delays. Descriptions of each view follow on the referenced pages.

Table 10. Volume I/O Delay Views

View	Name
I/O delays by volume	IDLVL (below)
Volume I/O delays by class	IDLVLC (see page 80)
Volume I/O delays by database	IDLVLDB (see page 80)
Volume I/O delays by data set	IDLVLDD (see page 81)
Volume I/O delays by IMS	IDLVLI (see page 81)
Volume I/O delays by PSB	IDLVLP (see page 82)
Volume I/O delays by transaction	IDLVLTR (see page 82)

IDLVL – I/O Delays by Volume

```

22MAR2002 09: 51: 58 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLVL=====IMS71Y==*=====22MAR2002==09: 51: 58====MVIS====D====2
CMD VolSer %I/O Dly Min Max Confidence
--- ----- 0...15...30 %Dly %Dly Level
BAB326 5 ** 3 7 None
<Mi sc. 1 0 2 None

```

Figure 67. IDLVL View

This view shows the volumes causing I/O delays and their impact on response time. Hyperlinking from a field in the first column of this view presents a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a volume I/O delay.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDL VLC – Volume I/O Delays by Class

```
22MAR2002 09:59:23 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDL VLC=====IMS71Y==*=====22MAR2002==09:59:22====MVIMS====D====4
CMD Vol Ser Cls %I/O Dly Min Max Confidence
-----
0...15...30 %Dly %Dly Level
<Mi sc. 1 2 * 2 2 None
<Mi sc. 2 1 0 1 None
BAB326 1 7 *** 7 7 None
BAB326 2 3 * 3 3 None
```

Figure 68. IDLVLC View

This view shows the volumes causing I/O delays and the impact on the classes using them.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLVLDB – Volume I/O Delays by Database

```
22MAR2002 13:35:38 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLVLDB=====IMS71Y==*=====22MAR2002==11:30:01====MVIMS====D====1
CMD Vol Ser DB Name %I/O Dly Min Max Confidence
-----
0...15...30 %Dly %Dly Level
BAB326 CUSTHDAM 7 *** 7 7 Medium
```

Figure 69. IDLVLDB View

This view shows the volumes causing I/O delays and the impact on the databases using them.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLVLDD – Volume I/O Delays by Data Set

```
22MAR2002 18:20:31 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IDLVLDD=====SYSB=====*=====22MAR2002==18:20:31====MVIMS====D===5
CMD Vol Ser DD Name      %I/O Dly      Mi n  Max  Confi dence
-----
0...15...30 %Dly %Dly Level
BAB321 CUSTDD01 8 ***          3  10 Hi gh
BAB321 CUSTDD03 7 ***          7   7 Medi um
BAB322 CUSTDD02 5 **           2   8 Hi gh
BAB322 CUSTDD11 8 ***          8   8 Medi um
BAB323 CUSTDD01 0              0   0 Hi gh
```

Figure 70. IDLVLDD View

This view shows the volumes causing I/O delays and the impact on the data sets they use. You can use it to see if a particular data set is causing the database delay. For Fast Path, DD Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLVLI – Volume I/O Delays by IMS

```
22MAR2002 10:02:13 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVLI=====IMS71Y====*=====22MAR2002==10:02:11====MVIMS====D====2
CMD Vol Ser IMS ID      %I/O Dly      Mi n  Max  Confi dence
-----
0...15...30 %Dly %Dly Level
<Mi sc. X18H 1          0   2 None
BAB326 X18H 5 **          3   7 None
```

Figure 71. IDLVLI View

This view shows the volumes causing I/O delays and the impact on the IMS using a volume.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLVLTP – Volume I/O Delays by PSB

```
22MAR2002 10:00:50 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVLTP=====IMS71Y====*=====22MAR2002==10:00:48====MVIMS====D====5
CMD Vol Ser PSBName      %I/O Dly      Mi n  Max  Confi dence
-----
0...15...30 %Dly %Dly Level
<Mi sc. PHIDMUPD 1          1    1 None
<Mi sc. PHISMINQ 2 *          2    2 None
<Mi sc. PHISMUPD 0          0    0 None
BAB326 PHDAMINQ 7 ***        7    7 None
BAB326 PHDAMUPD 3 *          3    3 None
```

Figure 72. IDLVLP View

This view shows the volumes causing I/O delays and the impact on the PSBs using them.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLVLTR – Volume I/O Delays by Transaction

```
22MAR2002 09:53:00 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVLTR=====IMS71Y====*=====22MAR2002==09:53:00====MVIMS====D====5
CMD Vol Ser Trancode     %I/O Dly      Mi n  Max  PSBName  Cl s  Confi dence
-----
0...15...30 %Dly %Dly -----
<Mi sc. THIDMUPD 1          1    1 PHIDMUPD 2 None
<Mi sc. THISMINQ 2 *          2    2 PHISMINQ 1 None
<Mi sc. THISMUPD 0          0    0 PHISMUPD 2 None
BAB326 THDAMINQ 7 ***        7    7 PHDAMINQ 1 None
BAB326 THDAMUPD 3 *          3    3 PHDAMUPD 2 None
```

Figure 73. IDLVLTR View

This view shows the volumes causing I/O delays and the impact on each transaction using them.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Lock Delays

The table below lists all the views available for lock delays. Descriptions of each view follow on the referenced pages.

Table 11. Lock Delay Views

View	Name
Lock delays	IDLLK (below)
Lock delays by class	IDLLKC (see page 84)
Lock delays by IMS	IDLLKI (see page 84)
Lock delays by PSB	IDLLKP (see page 85)
Lock delays by transaction	IDLLKTR (see page 85)

IDLLK – Lock Delays

```

22MAR2002 09: 56: 36 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
W1 =IDLLK=====IMS71Y==*=====22MAR2002==09: 56: 36====MVI MS====D====4
CMD Database DCB RBA/Type Avg % Dly Min Max Confidence Sharing
--- Name----- 0. . . . . 10. . . . 20 %Dly %Dly Level Group
CUSTHISM 1 12 19 ***** 19 19 None
CUSTHISM 1 E 15 ***** 15 15 None
CUSTINDX 1 1 9 ***** 9 9 None
<Misc. . . > 1 * 1 1 None

```

Figure 74. IDLLK View

This view shows the locks causing transaction delays and their impact on response time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a lock delay.

Note: For Fast Path, Database Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLKC – Lock Delays by Class

22MAR2002 09: 59: 46 ----- INFORMATION DISPLAY -----

COMMAND ==> SCROLL ==> HALF

CURR WIN ==> 1 ALT WIN ==>

WI =IDLLKTR==IDLLKC===IMS71Y==*=====22MAR2002==09: 59: 46====MVIMS====D====4

CMD	Database	DCB	RBA/Type	Cls	Avg % Dly	Min	Max	Confidence	Sharing
---	Name-----	---	---	---	0. . . . 10. . . . 20	%Dly	%Dly	Level	Group
	CUSTHISM	1	E	1	15	*****	15	15	None
	CUSTHISM	1	12	1	19	*****	19	19	None

Figure 75. IDLLKC View

You can access this view by hyperlinking from a Cls field in the IDLLKTR view of lock delays by transaction. This view shows the locks causing delays and the impact on a class. For Fast Path, Database Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLKI – Lock Delays by IMS

22MAR2002 10: 00: 29 ----- INFORMATION DISPLAY -----

COMMAND ==> SCROLL ==> HALF

CURR WIN ==> 1 ALT WIN ==>

>WI =IDLLKI=====IMS71Y==*=====22MAR2002==10: 00: 29====MVIMS====D====4

CMD	Database	DCB	RBA/Type	IMSID	Avg % Dly	Min	Max	Confidence
---	Name-----	---	---	---	0. . . . 10. . . . 20	%Dly	%Dly	Level
	<Mi sc. . >			X18H	1	*	1	1 None
	CUSTHISM	1	E	X18H	15	*****	15	15 None
	CUSTHISM	1	12	X18H	19	*****	19	19 None
	CUSTINDX	1	1	X18H	9	*****	9	9 None

Figure 76. IDLLKI View

This view shows the locks causing delays and the impact on an IMS. For Fast Path, Database Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLKP – Lock Delays by PSB

```

22MAR2002 09:58:46 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLKTR==IDLLKP==IMS71Y==*=====22MAR2002==09:58:45====MVIMS====D====4
CMD Database DCB RBA/Type PSBName      Avg % Dly      Mi n  Max  Confidence
--- Name-----
CUSTHISM 1          E PHISMINQ 15 *****      15  15 None
CUSTHISM 1          19 PHISMINQ 19 *****      19  19 None
  
```

Figure 77. IDLLKP View

You can access this view by hyperlinking from a PSBName field in the IDLLKTR view of lock delays by transaction. IDLLKP view shows the locks causing delays and the impact on a PSB. For Fast Path, Database Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLKTR – Lock Delays by Transaction

```

22MAR2002 09:57:44 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLKTR=====IMS71Y==*=====22MAR2002==09:57:44====MVIMS====D====4
CMD Database DCB RBA/Type Trancode      Avg % Dly      Mi n  Max  PSBName  Cl s
--- Name-----
<Mi sc. . >          THISMINQ 1 *          1  1 PHISMINQ 1
CUSTHISM 1          E THISMINQ 15 *****      15  15 PHISMINQ 1
CUSTHISM 1          12 THISMINQ 19 *****      19  19 PHISMINQ 1
CUSTINDX 1          1 THIDMINQ 9 *****          9  9 PHIDMINQ 1
  
```

Figure 78. IDLLKTR View

This view shows the lock causing delays and the impact on each transaction. For Fast Path, Database Name shows the Fast Path area.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Latch Delays

The table below lists all the views available for latch delays. Descriptions of each view follow on the referenced pages.

Table 12. Latch Delay Views

View	Name
Latch delays	IDLLH (below)
Latch delays by class	IDLLHC (see page 87)
Latch delays by IMS	IDLLHI (see page 87)
Latch delays by PSB	IDLLHP (see page 88)
Latch delays by transaction	IDLLHTR (see page 88)

IDLLH – Latch Delays

```

22MAR2002 10: 01: 15 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IDLLH=====IMS71Y==*=====22MAR2002==10: 01: 15====MVIMS====D===1
CMD Latch      Avg % Dly      Mi n  Max  Confi dence
--- ID-----  0. .... 5. .... 10 %Dly %Dly Level
  <Mi sc. . >  1 *              0    2 None

```

Figure 79. IDLLH View

This view shows the latches causing transaction delays and their impact on response time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a latch delay.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLHC – Latch Delays by Class

```
22MAR2002 10:03:45 ----- INFORMATION DISPLAY -----  
COMMAND ==> SCROLL ==> HALF  
CURR WIN ==> 1 ALT WIN ==>  
>W1 =IDLLHTR==IDLLHC==IMS71Y==*=====22MAR2002==10:03:45====MVI MS====D====1  
CMD Latch Cls Avg % Dly Min Max Confidence  
--- ID----- 0.....5.....10 %Dly %Dly Level  
<Mi sc.. > 1 1 ** 1 2 None
```

Figure 80. IDLLHC View

You can access this view by hyperlinking from a Cls field in the IDLLHTR view of latch delays by transaction. This view shows the latches causing delays and the impact on a class.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLHI – Latch Delays by IMS

```
22MAR2002 10:04:21 ----- INFORMATION DISPLAY -----  
COMMAND ==> SCROLL ==> HALF  
CURR WIN ==> 1 ALT WIN ==>  
>W1 =IDLLHTR==IDLLHI==IMS71Y==*=====22MAR2002==10:04:20====MVI MS====D====1  
CMD Latch IMS Avg % Dly Min Max Confidence  
--- ID----- ID----- 0.....5.....10 %Dly %Dly Level  
<Mi sc.. > Y18H 1 * 0 2 None
```

Figure 81. IDLLHI View

You can access this view by hyperlinking from an IMS ID field in the IDLLHTR view of latch delays by transaction. This view shows the latches causing delays and the impact on an IMS.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLHP – Latch Delays by PSB

```
22MAR2002 10:03:16 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLHTR==IDLLHP==IMS71Y==*=====22MAR2002==10:03:16==MVIMS==D==1
CMD Latch   PSBName      Avg % Dly      Min Max Confidence
--- ID-----          0. .... 5. .... 10 %Dly %Dly Level
<Mi sc. . > PHDAMI NQ    2 **                2    2 None
```

Figure 82. IDLLHP View

You can access this view by hyperlinking from a PSBName field in the

- IDLLHTR view of latch delays by transaction
- IDLTRLH view of latch delays by latch

This view shows the latches causing delays and the impact on a PSB.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IDLLHTR – Latch Delays by Transaction

```
22MAR2002 11:32:25 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLHTR=====IMS71Y==*=====22MAR2002==11:30:54==MVIMS==D==4
CMD Latch   Trancode     Avg % Dly      Min Max IMS PSBName Cls Confidence
--- ID-----          0. .... 5. .... 10 %Dly %Dly ID ----- Level
<Mi sc. . > THDAMI NQ    2                2    2 Y18H PHDAMI NQ    1 None
<Mi sc. . > THDAMUPD    1                1    1 Y18H PHDAMUPD    2 None
<Mi sc. . > THIDMI NQ    1                1    1 Y18H PHIDMI NQ    1 None
<Mi sc. . > THISMUPD    0                0    0 Y18H PHISMUPD    2 None
```

Figure 83. IDLLHTR View

This view shows the latches causing delays and the impact on each transaction.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Views for Transaction Response Analysis

This section lists all the views available to help you identify the transaction processing events contributing to transaction response time. The views are classified into the components of transaction flow through IMS.

Measured data is presented by these views in textual and/or graphical form. Scrolling right presents more data for that view. You can restrict view presentation by context, scope, or filters. (To see which of these apply to a view, select the view name on the window information line within the view and press your help key.)

To analyze transaction response, start with IFCTR view. This view allows you to

- View processing events for all transactions
- See the IMS processing events that contributed to each transaction's response time
- Determine where transactions spend their time during IMS processing

Within IFCTR view, select a transaction you are interested in, and then hyperlink from it to an Object Easy Menu. The Object Easy Menu will provide you with the following view options:

- Transaction processing events
- Workload processing events
- Input queue
- Application
- DL/I
- DL/I calls
- DB2
- Sync point
- ROLS
- Scheduling

As described in the *Using MAINVIEW* manual, you can customize views and create screens comprising several views to meet your site's needs.

IMS Processing Events

The table below lists all the views available for IMS processing events. Descriptions of each view follow on the referenced pages.

Table 13. IMS Processing Event Views

View	Name
Major IMS processing events	IFCTR (see page 91)
DB2	IFCTR2 (see page 92)
Application	IFCTRA (see page 93)
DL/I	IFCTRD (see page 94)
DL/I calls	IFCTRI (see page 95)
Sync point	IFCTRP (see page 96)
Input queue	IFCTRQ (see page 97)
ROLS	IFCTRR (see page 98)
Scheduling	IFCTRS (see page 99)

IFCTR – Processing Events by Transaction

```

22MAR2002 13: 58: 25 ----- INFORMATION DISPLAY -----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IFCTR=====SYSB=====22MAR2002==13: 58: 24==MVI MS==D==5
CMD Trancode IMS ID Avg  Avg  Avg %InputQ Avg  Avg %Elapse Avg  Avg  Avg
----- Respo Input 0. . 50. . 100 Elaps 0. . 50. . 100 Appl - DLI - DB2 -
TRAN0005 IMSA  4. 13  2. 23 ***** 1. 90 ***** 0. 36  1. 54
TRAN0002 IMSA  3. 43  1. 53 ***** 1. 90 ***** 0. 36  1. 54
TRAN0001 IMSA  3. 24  1. 10 ***** 2. 15 ***** 1. 06  1. 08  0. 01
TRAN0002 IMSB  2. 53  0. 57 ** 1. 97 ***** 0. 82  0. 83  0. 02
TRAN0004 IMSB  1. 53  0. 27 ** 1. 27 ***** 0. 58  0. 58  0. 01

```

Figure 84. IFCTR View

You can access this view by entering IFCTR on the command line or selecting the name from a list of views with the VIEWS command. A highlighted field label indicates you can select the field to hyperlink to a more detailed view.

Average response time is broken down into percentages of response time the transaction spent in the input queue and in execution. This allows you to quickly determine whether there is a problem and whether it is occurring in workflow (%Inp Que) or in a processing event (%Elap). The other columns break down the events that occurred as IMS processed the transaction. A high percentage shown by any of these indicates where a potential problem could be. For example, if Avg Appl is high, you can hyperlink to a view of application processing for that transaction to see what process may be contributing to this event.

Hyperlinking from a field in the first column of the IFCTR view presents a menu. This menu serves as a platform to obtain more detailed information about the IMS processing events contributing to response time.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTR2 – DB2 by Transaction

```
22MAR2002 10: 49: 13 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>w1 =IFCTR=====IFCTR2====IMS71Y====*=====22MAR2002==10: 49: 12====MVIMS=====D=====1
COD Trancode IMS      Avg      Avg % DB2      %CPU %CPU %DB2 Confidence
-U- ----- ID      Resp      0. .... 15. .... 30 Act  Dly Wait Level
  W  TDRI VER  Y18H  1053.
  M
```

Figure 85. IFCTR2 View

You can access this view by

- Hyperlinking from the Avg % DB2 field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in DB2 processing. It shows the amount of time spent processing a call or waiting for CPU and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRA – Application by Transaction

```

22MAR2002 10:32:01 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR====IFCTRA====IMS71Y====*=====22MAR2002==10:32:01====MVIMS====D====1
CMD Trancode IMS Avg      Avg % Appl      %CPU %CPU %I/O %F/L %SVC %Oth
--- --- ID Resp 0. .... 25. .... 50 Act Dly Dly Dly Dly Dly
      TDRI VER Y18H 1053. 27 ***** 6 2 16 2

```

Figure 86. IFCTRA View

You can access this view by

- Hyperlinking from the Avg % Appl field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in application processing. It shows where time was spent, such as waiting for CPU to be available (%CPU Dly) or program fetch and load delay (%F/L Dly), and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRD – DL/I by Transaction

```
22MAR2002 05:34:07 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1=IFCTR==IFCTRD==IMS71Y==*=====22MAR2002==05:34:07==MVIMS==D==1
CMD Trancode IMS Avg % Avg DLI Avg% Avg% Avg% Confidence
----- ID Resp 0.....25.....50 Cal1 ROLS Sync Level
      TDRIVER Y18H 1053. 73 *****+ 20 53 High
```

Figure 87. IFCTRD View

You can access this view by

- Hyperlinking from the Avg % DLI field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in DL/I execution. It shows where time was spent and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRI – DL/I Calls by Transaction

```
22MAR2002 10:46:05 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR====IFCTRI===IMS71Y====*=====22MAR2002==10:46:05====MVIMS====D====1
CMD Trancode IMS Avg          Avg % DLI          %CPU %CPU %I/O %Lck %Lch %Oth
--- ----- ID  Resp      0.....25.....50 Act  Dly  Dly  Dly  Dly  Dly
      TDRI VER  Y18H 1053. 20 *****          6    9          0    5
```

Figure 88. IFCTRI View

You can access this view by

- Hyperlinking from the Avg % Call field in the IFCTRD view of DL/I execution events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in DL/I call processing. It shows where time was spent and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRP – Sync Point by Transaction

```
22MAR2002 10: 50: 38 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR====IFCTRP===IMS71Y====*=====22MAR2002==10: 50: 38====MVIMS====D====1
CMD Trancode IMS Avg      Avg %Sync      %CPU %CPU %I/O %Lck %Lch %Oth
--- ---- ID  Resp  0. .... 15. .... 30 Act  Dly  Dly  Dly  Dly  Dly
      TDRIVER Y18H 1053. 53 *****+      5    0
                                     48
```

Figure 89. IFCTRP View

You can access this view by

- Hyperlinking from the Avg% Sync field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in sync point processing. It shows where time was spent by the IMS sync point manager in acquiring resources and the impact on transaction response time by that event. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRQ – Input Queue by Transaction

```

22MAR2002 05:29:32 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR==IFCTRQ==IMS71Y==*=====22MAR2002==05:29:31==MVIS==D==1
CMD Trancode IMS Avg      Avg %InputQ      Avg %BackOut Avg% Confidence
--- --- ID Resp 0. . . . . 50. . . . . 100 0. . . . 25. . . 50 Schd Level
      THISMINQ Y18H 0.21 21 **** 0 11 Low

```

Figure 90. IFCTRQ View

You can access this view by

- Hyperlinking from the Avg% InputQ field in the IFCTR view of IMS processing events to see what events contributed to elapsed time
- Hyperlinking to it from a menu option
- Entering its name on the command line

This view shows the average amount of time a message spent in the input queue and its impact on a transaction's response time. Input queue time includes backout time for requeuing a transaction if it did not execute successfully. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRR – ROLS by Transaction

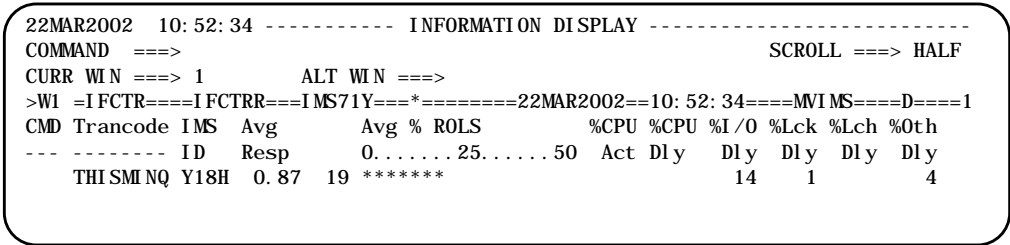


Figure 91. IFCTRR View

You can access this view by

- Hyperlinking from the Avg% ROLS field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Entering its name on the command line

This view shows the average amount of time a transaction spent in ROLS processing. It shows where time was spent and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

IFCTRS – Scheduling by Transaction

```

22MAR2002 10: 30: 10 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR==IFCTRS==IMS71Y==*=====22MAR2002==10: 30: 10==MVIS=====1
CMD Trancode IMS Avg      Avg % Sched      %CPU %CPU %I/O %Pol %Lch %Oth
--- ----- ID  Resp    0. .... 15. .... 30 Act  Dly  Dly  Dly  Dly  Dly
      THIDMINQ Y18H  0.17  8 ****              1    6              0    2

```

Figure 92. IFCTRS View

You can access this view by

- Hyperlinking from the Trancode field in the IFCTR view of IMS processing events and selecting it as a menu option
- Hyperlinking to it from the IFCTRQ view
- Entering its name on the command line

This view shows the average amount of time a transaction spent in scheduling. It shows where time was spent by the IMS scheduler in acquiring resources and its impact on transaction response time. Hyperlinking from a field in the first column of this view presents a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For online help, position the cursor on the name of the view or any field, and then press the help key.

Chapter 6. Examining a User Application

This chapter shows you how to use IMSplex System Manager (IPSM) transaction trace views to examine a user application. These views can show you problem trends with a user application, transaction, or program.

These views help you identify the causes of problem trends. You can use the views to solve performance problems detected by

- MAINVIEW VistaPoint
- IPSM transaction response time and delay analysis views
- Your user

As shown in Figure 93, to investigate poor application performance, start by viewing a list of completed transaction traces.

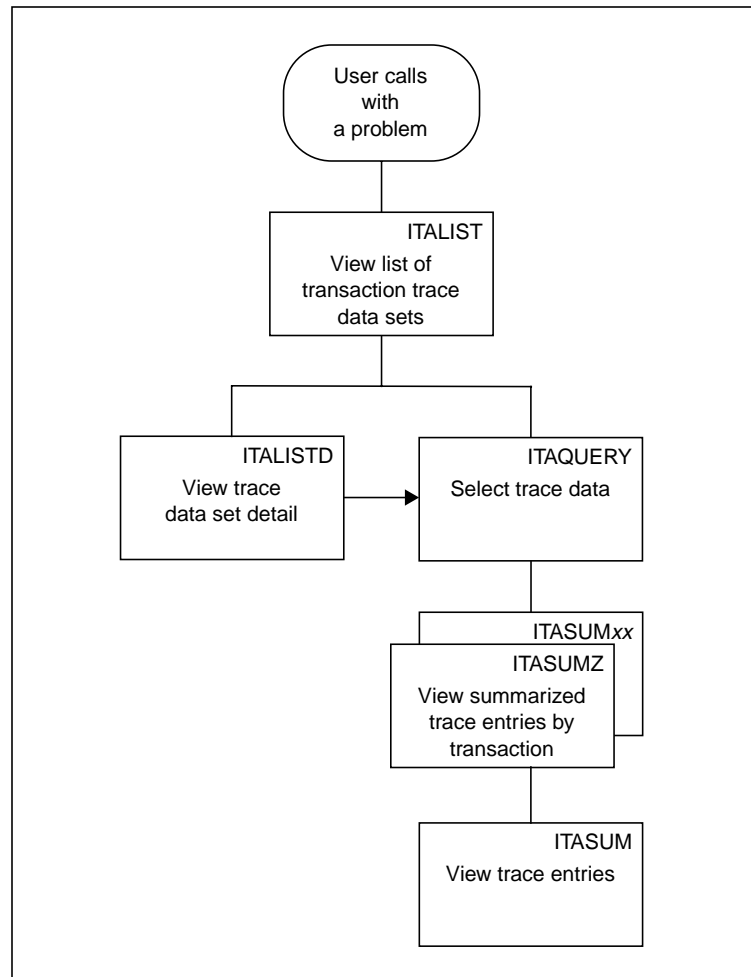


Figure 93. Tracing an Application

All traces recorded in trace log data sets are tracked in a directory that you can access from ITALIST view, as described in “ITALIST – List of Transaction Trace Data Sets” on page 104. ITALIST hyperlinks allow you to select a trace and view

- A trace query request where you can change and/or run the request against collected data
This allows you to select trace data you want to view.

- Details about the contents of a trace data set

Using the detailed view, you can see average highs and lows and trends and hyperlink to a summary trace view qualified by a trace query request. Trace summary views group trace data by attributes, such as transaction code, PSB, IMS, or user.

Views for Application Performance Analysis

This section describes the views you can use to isolate application performance problems.

Transaction Trace Views

The following table lists all of the views available for transaction traces.

All views are described in the online help. From a view:

- Select the name of the view and press your help key.
- Enter HELP and the name of the view on the command line.

Table 14. Transaction Trace Views

View	Name	Description
Trace list	ITALIST	List of transaction trace data sets
	ITALISTD	Trace data set detail
Trace query	ITAQUERY	Trace data selection
Summarized trace	ITASUM	Trace entries
	ITASUMI	Trace entries summarized by IMS
	ITASUMIP	Trace entries summarized by IMS by PSB
	ITASUMIT	Trace entries summarized by IMS by transaction
	ITASUMP	Trace entries summarized by PSB
	ITASUMPI	Trace entries summarized by PSB by IMS
	ITASUMTI	Trace entries summarized by transaction by IMS
	ITASUMU	Trace entries summarized by user
	ITASUMUT	Trace entries summarized by user by transaction
	ITASUMZ	Trace entries summarized by transaction

ITALIST – List of Transaction Trace Data Sets

```

22MAR2002 07:39:52 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITALIST=====IMS71Y=====22MAR2002==07:21:40====MVIMS =====5
      End
- End Date  Time  Trace Id Trace Title          Nbr of Trce Target Dsn
  Trans    Type Jobname Id
  21MAY2002 12:09 ABR3      ABBREVIATED TRACE          25032 Abr  IMS71Y   32
  21MAY2002 15:51 ABR3      ABBREVIATED TRACE          15541 Abr  IMS71Y   31
  21MAY2002 10:26 DETAIL    DETAIL WORKLOAD TRACE       2264 Det  IMS71Y   18
  21MAY2002 15:34 DETAIL    DETAIL TRACE                 1586 Det  IMS71Y   22
  20JUN2002 09:48 SUMMARY   WORKLOAD TRACE              6053 Sum  IMS71Y    8

```

Figure 94. ITALIST View

You can access this view by

- Hyperlinking to it from a menu option
- Entering its name on the command line

ITALIST is a view of trace directory entries. Each entry or line summarizes one or more traces, each having the same qualifiers. It shows the last recorded date and time, trace ID and description, total number of trace records for each entry, trace type (detail, summary, or abbreviated) target jobname, and the data set token ID. Scrolling right provides more information, such as first and last recorded start date and time and the number of data sets. Selecting

- End Time hyperlinks to the ITAQUERY view for the trace data set you select and sets TIME for the query to the last interval recorded in the trace data set
- Trace ID hyperlinks to the ITAQUERY view for the trace data set you select
- Nbr of Trans hyperlinks to the ITALISTD view for the trace data set you select

For more information, you can select a field from this view and press your help key.

ITALISTD – Trace Data Set Detail

22MAR2002 16: 53: 41 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> HALF

CURR WIN ==> 1

ALT WIN ==>

>W1 =ITALISTD=====IMS71Y==*=====22MAR2002==16: 51: 45====MVIMS=====4

-	Date	Start Time	End Time	Nbr of Trans	Avg Resp	Avg InpQ	Avg El ap	Avg DL/I	Avg I/O	Avg DB2	Abend Cnt
	21MAY2002	11: 15	11: 30	12852	0. 139	0. 045	0. 094	7	0		0
	21MAY2002	11: 30	11: 45	921	0. 131	0. 045	0. 086	37	0		0
	21MAY2002	11: 45	12: 00	5709	0. 138	0. 046	0. 093	7	0		0
	21MAY2002	12: 00	12: 15	5550	0. 141	0. 045	0. 096	7	0		0

Figure 95. ITALISTD View

You can access this view by hyperlinking to it from a Nbr of Trans field in the ITALIST view

ITALISTD is a view of the data collected in a historical trace log data set. It provides statistics showing

- How many trace records were written in a period of time
- Averages for response time, input queue time, database calls, and I/O
- Maximums and minimums for response time, input queue time, and elapsed time and shows trace ID and type

Selecting a field from Nbr of Trans hyperlinks to the ITAQUERY view where you can restrict trace data display by running a query request against the collected data. The query request is primed with the average values calculated by ITALISTD. You can run the request with these values or you can replace them. This allows you to look for worse than average cases.

For more information, you can select a field from this view and press your help key.

ITAQUERY – Select Trace Data

```
22MAR2002 16:46:33 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ITAQUERY=====IMS71Y====*=====22MAR2002==16:46:31====MVIMS =====1
                                Trace Query Parameters

Command. .... (required)                                R- Run, Q- Edit QWHERE
Traceid, DsnId (required) ABR3, 32

Time Period. .... 21MAY2002 12:09 1I                    Update with TIME command
Workload Name. .... *
Transaction Code. .... *
PSB Name. .... *
Response Time      >= 1.0
Elapsed Time       >= 0.5
```

Figure 96. ITAQUERY View

You can access this view by

- Hyperlinking to it from an End Time or Trace ID field in the ITALIST view
- Entering the view name on the command line

You can use this view to create and execute a query against the trace data in a trace data set. Trace data is selected by the trace ID and the data set name ID (or token) in the Traceid and DsnId fields. The data retrieved is presented in the ITASUMZ view.

You must enter either R to RUN your query request or Q to modify the QWHERE clause used by the query. QWHERE allows you to create complex expressions and use other trace filter parameters.

You can specify other trace query parameters for trace ID, data set ID, transaction code, PSB name, and thresholds for response and elapsed time

For more information, you can select a field from this view and press your help key.

ITASUM – Trace Entries

```

22MAR2002 09:33:19 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>W1 =ITASUMZ==ITASUM==IMS71Y==*=====22MAR2002==09:29:36====MVIMS=====5

```

	Trn	Resps	El apsd	DLI	DLI	DB2	Total	DLI	DB2	End	
--	Trancode	Type	Time	Time	Call s	I/O	Call s	CPU	CPU	CPU	Time
	THIDMI NQ	MPP	2.040	1.960	7			0.0064	0.0031	0.000	10:07:02.84
	THIDMI NQ	MPP	1.240	1.230	7			0.0064	0.0033	0.000	10:07:05.74
	THIDMI NQ	MPP	1.270	1.250	6			0.0063	0.0053	0.000	10:07:15.47
	THIDMI NQ	MPP	1.270	1.200	9			0.0166	0.0041	0.000	10:07:23.27
	THIDMI NQ	MPP	1.380	1.370	9			0.0116	0.0069	0.000	10:07:55.78

Figure 97. ITASUM View

You can access ITASUM view by

- Hyperlinking from the Cnt field in the ITASUMZ view
- Entering the view name on the command line

This view averages transaction occurrences for a given time period. It shows

- Average response time of the transaction
- Average CPU time, DL/I execution, and DB2 processing for the transaction
- Average number of database calls (DL/I and DB2)

Scrolling right provides more trace data. You can hyperlink from a field in the first column of this view to a trace menu.

Select a view field and use your help key for an online description of a field.

ITASUMZ – Trace Entries Summarized by Transaction

```

22MAR2002 14:01:46 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>H1 =ITASUMZ=====IMS71Y====*=====22MAR2002==10:45:01====MVIMS=====3
-- Trancode Cnt Type Time Queue Time Calls I/O Calls CPU CPU CPU
  THIDMINQ 100 MPP 0.099 0.099 0.056 6 0 0.0101 0.0054 0.000
  THIDMUPD 100 MPP 0.079 0.079 0.035 2 0 0.0056 0.0004 0.000
  THISMINQ 100 MPP 0.191 0.191 0.144 10 0 0.0133 0.0077 0.000

```

Figure 98. ITASUMZ View

You can access ITASUMZ view by

- Requesting a trace query with the ITAQUERY view
- Entering the view name on the command line

This view shows transactions summarized by transaction code. It provides transaction execution details. You can hyperlink from a field in the first column of this view to a trace menu. From the trace menu, you can select other trace summary grouping options for further analysis, refine a query request, or select trace data from a different time period.

For more information, you can select a field from this view and press your help key.

Chapter 7. Monitoring IMS Workloads and Resources

From the IMSplex System Manager (IPSM) view environment, you can request the Workload Monitor and Resource Monitor services described in the *MAINVIEW for IMS Online – Monitors and Traces Reference Manual*. These services are timer-driven monitors that measure IMS workload and resources over time as requested by a user. Once a monitor is active, you can use the following set of IPSM views.

IMON	Shows how many monitors are active for each target and the number that are in a warning condition
ISERV	Lists all active monitors
IMAREAZ	Shows how many monitors are active by IMS area and the number that are in a warning condition for each target
IMWARN	Lists all monitors in a warning condition

To access these views, you can enter the view name on the command line.

Starting with IMON shows you how many monitors are running. From there, you can hyperlink to

- ISERV to see the monitor values
You can select a monitor displayed by ISERV and hyperlink to a view of a plot produced by that monitor.
- IMAREAZ to see the monitors summarized by target area
You can hyperlink from here to ISERV, select a monitor, and view a plot from that monitor.
- IMWARN to see only those monitors in warning
You can select a monitor displayed by IMWARN and hyperlink to a view of a plot produced by that monitor. Easy Menus also provide hyperlinks to these monitor views.

IMON – Target Monitor Summary

```
22MAR2002 12:14:22 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
H1 =IMON===== (ALL=====*)===== 22MAR2002=09:00:01====MVIMS=====2
CMD Target  Actv  Number in Warn      Avg % Warning  Maximum
---  ----- Mntrs 0....10...20      0....50...100 % Warning
    IMS71X      3  0                40.5 *****      40.5
    IMS71X      3  0                11.4 **                11.4
```

Figure 99. IMON View

This view summarizes the number of monitors started for each target and shows how many of those monitors are in a warning condition and the warning value. Hyperlinking from an element in the

- Target column or Actv Mntrs column presents the ISERV view
- Number in Warn column presents the IMWARN view

You can access this view by entering its name on the command line or selecting the Monitors Active option from the EZIMS menu.

For more information about a view element, use your cursor to select the element you want and press your help key.

ISERV – Active Monitors

```
22MAR2002 12:20:14 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
H1 =IMON=====ISERV== (ALL=====*)===== 22MAR2002=09:00:01====MVIMS=====3
CMD Serv  Parm      % Warning  Curr      Warn      Area Target
---  ----- 0....50...100 Value-- Value-- -----
    @RSTM QUERIES  40.5 *****      0.40      1.00 IWTR IMS71X
    @RSTM UPDATES  40.5 *****      0.40      1.00 IWTR IMS71X
    @RSTM ALLWORK  40.5 *****      0.40      1.00 IWTR IMS71X
```

Figure 100. ISERV View

This view lists the individual monitors by name for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from Target or Actv Mntrs in the IMON view.

Selecting an element and pressing your help key provides more information about that element.

IMAREAZ – Target by Area Monitor Summary

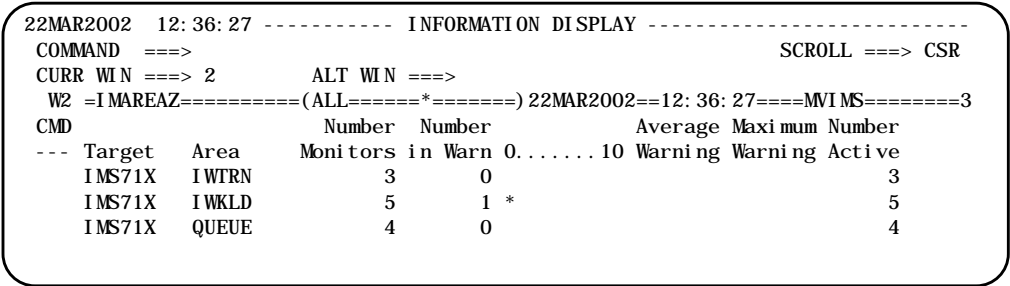


Figure 101. IMAREAZ View

This view summarizes the number of monitors by target area and shows their status. You can hyperlink to the ISERV view from an element in the Area or Number Monitors column to see what the monitors are for the selected target and area. Number in Warn hyperlinks to the IMWARN view for the selected target and area.

You can access this view by entering its name on the command line.

For more information about the view, select an element with your cursor and press your help key.

IMWARN – Monitors in Warning

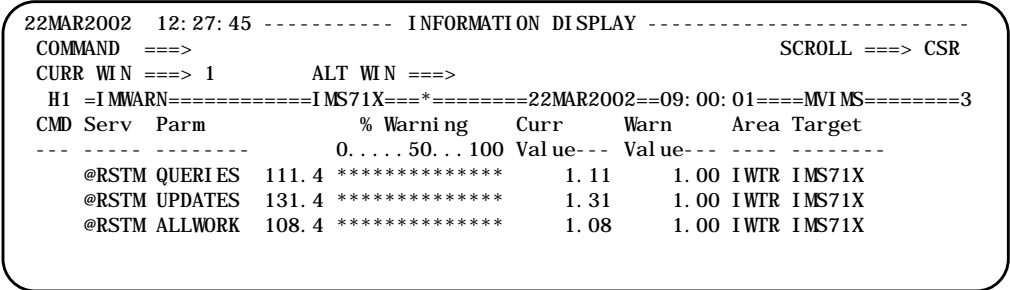


Figure 102. IMWARN View

This view displays only those monitors in a warning condition. It shows how many monitors are in warning and the defined threshold for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from a Number in Warn element in the IMON view.

Select a view element and use your help key for an online description of that element.

MAINVIEW for IMS Monitors

When you select a monitor from ISERV or IMWARN, a view showing a plot of the data collected by that monitor is displayed, like the one shown below.

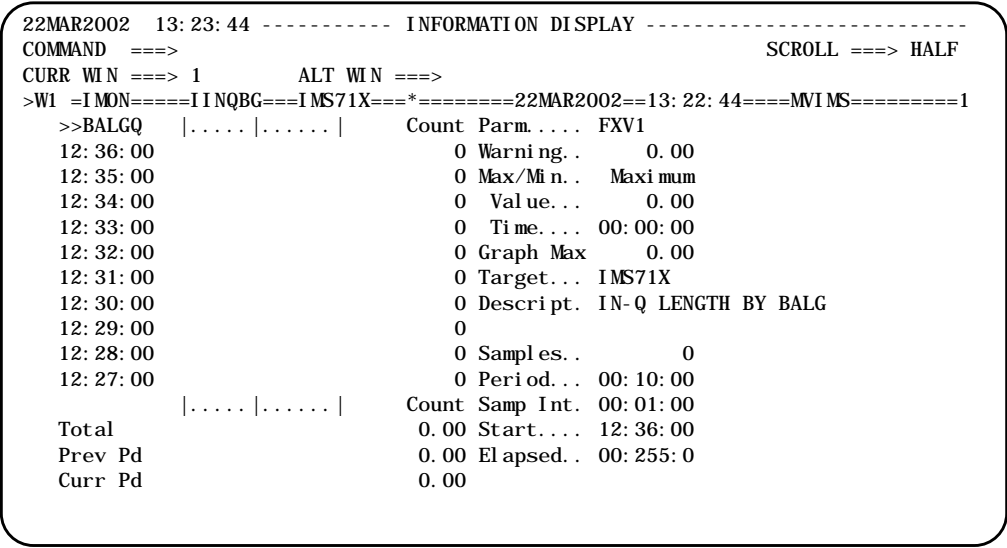


Figure 103. IINQBG View

Each plot provided by a monitor has a hyperlink to a corresponding MVIMS service that you can use for detail analysis of your target’s performance. The hyperlink is indicated by >> in the upper left portion of the view. In the preceding example, it is >>BALGQ. This is a hyperlink to the IMS analyzer BALGQ online service. When you make this hyperlink, you have access to all the online services provided by the IMS analyzer and monitor components MVIMS.

The following sections list the monitor plot views for the IMS workload and resource monitor services described in the *MAINVIEW for IMS Online – Monitors and Traces Reference Manual*. The descriptions are in tabular form and categorized by IMS area. Each table shows the plot view and its corresponding monitor and describes the performance data provided.

IMS Workload Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- DB2 MPP and IFP activity
- Fast Path MPP and IFP activity
- Global region calls
- MPP and IFP elapsed timing
- MPP and IFP transactions

DB2 MPP and IFP Activity

These monitors provide performance data about DB2 calls made through the IMS Attach facility and usage of dependent region CPU time for DB2 requests made by a transaction.

Table 15. IMS Workload Monitors for DB2 MPP and IFP Activity

View	Monitor	Description
I#CDB2	#CDB2	Reports the number of SQL calls to DB2 to access data tables for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of SQL calls to DB2 for the total workload or a single workload type.
I#SDB2	#SDB2	Reports the number of nondata-access SQL calls (DDL, dynamic, and control-type calls) to DB2 for selected workloads during the sampling interval. Depending on the parameters specified with the monitor, the reported value is the number of nondata-access SQL calls to DB2 for the total workload or a single workload type.
I@PDB2	@PDB2	Reports the average CPU time used per transaction to process DB2 requests for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average CPU time used by the total workload or a single workload type.

Fast Path MPP and IFP Activity

These monitors provide performance data about IMS Fast Path resource usage.

Table 16. IMS Workload Monitors for Fast Path MPP and IFP Activity

View	Monitor	Description.
I#CIC	#CIC	Reports the number of workload Fast Path database control interval contentions (CIC) during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of CICs for the total workload or a single workload type.
I#OBAW	#OBAW	Reports the number of overflow buffer (OBA) latch waits for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of OBA waits by Fast Path transactions or a single workload type.
I@OBA	@OBA	Reports the average overflow buffer usage by Fast Path transactions for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average overflow buffer usage for the total workload or a single workload type.

Global Region Calls

These monitors provide performance data about all region calls issued during IMS application program processing, including DL/I calls issued by DBCTL regions.

Table 17. IMS Workload Monitors for Global Region Calls

View	Monitor	Description
I\$CBMP	\$CBMP	Reports the number of calls issued by BMP regions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CDBT	\$CDBT	Reports the number of DL/I calls issued by DBCTL threads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CMPP	\$CMPP	Reports the number of calls issued by MPP and IFP regions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CTOT	\$CTOT	Reports the number of calls issued by all region types during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.

MPP and IFP Elapsed Timing

These monitors provide performance data about transaction elapsed, input, and response time.

Table 18. IMS Workload Monitors for MPP and IFP Elapsed Timing

View	Monitor	Description
I@ELAP	@ELAP	Reports the average elapsed time of workload MPP or IFP transactions during the sampling period. The average elapsed time of DBCTL threads also are measured. Depending on the parameters specified with the monitor, the reported value is the average transaction elapsed time for all workloads or for all workloads of a single type.
I@INPQ	@INPQ	Reports the average MPP or IFP transaction input queue time for workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average input queue time for all workloads or for all workloads of a single type.
I@RESP	@RESP	Reports the average response time of workload MPP or IFP transactions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average transaction response time for all workloads or for all workloads of a single type.

MPP and IFP Transactions

This monitor measures how many transactions IMS processed.

Table 19. IMS Workload Monitors for MPP and IFP Transactions

View	Monitor	Description
I#PROC	#PROC	Reports the number of workload MPP or IFP transactions processed during a sampling period. Depending on the parameters specified with the monitor, the reported value is the number of MPP or IFP transactions processed for all workloads or for a single workload type.

IMS Resource Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- MFS
- Input queuing
- Message queuing
- MSC links
- Output queuing
- Scheduling
- Dependent Regions
- Database activity
- Internals
- Interaction with OS/390
- IRLM

IMS MFS

These monitors measure MFS I/O and requests.

Table 20. IMS Resource Monitors for MFS I/O and Requests

View	Monitor	Description
IMFSFD	MFSFD	Reports the percentage of MFS immediate block requests satisfied from pool storage. The percentage is cumulative, based on the total number of immediate block requests minus immediate block reads that occurred in the sampling interval.
IMFSIO	MFSIO	Reports the number of MFS I/O reads during the sampling period. The reported value is the sum of directory reads, prefetch block reads, and immediate block reads.
IMFSIR	MFSIR	Reports the total number of MFS immediate requests during the sampling interval.

Input Queue

These monitors provide performance data about input queue length, including the number of transactions in the input queue and the number available for scheduling.

Table 21. IMS Resource Monitors for the Input Queue

View	Monitor	Description
IINQBG	INQBG	Reports the number of queued input transactions by balancing group (BALG). Depending on the parameters specified with the monitor, the reported value is the total input queue length for all BALGs or the input queue length for one BALG or group of BALGs.
IINQCL	INQCL	Reports the number of queued transactions by class during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total input queue length for all classes or the input queue length for one class.
IINQTR	INQTR	Reports the input queue length by transaction during the sampling interval. Depending on the parameters specified with the monitor, the reported value is the total input queue length or the input queue length for one transaction or group of transactions.
IIQSCL	IQSCL	Reports the number of queued transactions available for scheduling during the sampling period. A queued transaction available for scheduling is not locked, is not stopped, and does not have a priority zero. Depending on the parameters specified with the monitor, the reported value is the total input queue length of all transactions available for scheduling or the input queue length for one processing class.

Message Queue

These monitors provide performance data about the message queue.

Table 22. IMS Resource Monitors for the Message Queue

View	Monitor	Description
ILGMSG	LGMSG	Reports the percentage of the long message queue data set in use during the sampling period. The percentage is calculated as the ratio of allocated records to the total number of records in the long message queue data set.
IQBLKS	QBLKS	Reports the percentage of the QBLKS message queue data set in use during the sampling period. The percentage is calculated as the ratio of allocated records to the total number of records in the QBLKS message queue data set.
IQIO	QIO	Reports the total number of queue I/Os performed during the sampling interval. The number includes both read and write queue I/Os.
IQWAIT	QWAIT	Reports the total number of queuing waits that occurred during a sampling period. Queuing waits include the following: <ul style="list-style-type: none">• Waits for an available buffer• Waits for other DECB to read• Waits for other DECB to write• Waits for purge• Waits for buffer ENQ/DEQ
ISHMSG	SHMSG	Reports the percentage of the short message queue data set in use during the sampling period. The percentage is calculated as the ratio of allocated records to the total number of records in the short message queue data set.

MSC Links

These monitors provide performance data about messages received and sent on MSC logical links and the MSC logical link output queue length.

Table 23. IMS Resource Monitors for MSC Links

View	Monitor	Description
IINLK	INLK	Reports the number of messages received on MSC Logical Links during the sampling period. The reported value is the total received for all MSC Logical Links or for a single link depending on the parameters specified with the monitor.
IOQLKS	OQLKS	Reports the output queue length for MSC Logical Links during the sampling period. The reported value is the output queue length for all MSC Logical Links or for one link, depending on the parameters specified with the monitor. It is the difference between the enqueue and dequeue counts for remote transactions and MSNAMES using the MSC Logical Links.
IOUTLK	OUTLK	Reports the number of messages sent on MSC Logical Links during the sampling period. The reported value is the number sent for all MSC Logical Links or for one link depending on the parameters specified with the monitor.

Output Queue

These monitors provide performance data about the number of output messages queued and dequeued by a resource and the number of messages queued to inactive ETO user structures.

Table 24. IMS Resource Monitors for the Output Queue

View	Monitor	Description
IDEADQ	DEADQ	Reports the number of messages queued to inactive ETO user structures. A user structure is considered inactive if it has not been connected to a node for at least as many days as specified in the parameter field. If the parameter field is left blank, the value specified for the IMS dead letter queue time is used.
IOQLN	OQLN	Reports the output queue length by line during the sampling interval. The reported value is total output queue length or the queue length for one line, depending on the parameters specified with the monitor.
IOQLT	OQLT	Reports the output queue length by LTERM during the sampling interval. The reported value is total output queue length or the length for one LTERM or group of LTERMs, depending on the parameters specified with the monitor.
IOQND	OQND	Reports the output queue length by node during the sampling period. The reported value is the total output queue length or the length for one VTAM node or group of nodes, depending on the parameters specified with the monitor.
IOUTLN	OUTLN	Reports message output by line during the sampling interval. The reported value is total output or by one line depending on the parameters specified with the monitor.
OUTLT	OUTLT	Reports message output by LTERM during the sampling interval. The reported value is total output or by one LTERM or group of LTERMs, depending on the parameters specified with the monitor.
IOUTND	OUTND	Reports message output by VTAM node during the sampling period. The reported value is total output or by one VTAM node or group of nodes, depending on the parameters specified with the monitor.

IMS Scheduling

These monitors provide performance data about transaction arrivals and transactions processed.

Table 25. IMS Resource Monitors for Scheduling

View	Monitor	Description
IARVBG	ARVBG	Reports the number of transaction arrivals by balancing group (BALG). Depending on the parameters specified with the monitor, the reported value is the total for all BALGs or the number for one BALG or group of BALGs.
IARVCL	ARVCL	Reports the number of transaction arrivals by processing class during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total transaction arrivals or the number for one processing class.
IARVPR	ARVPR	Reports the number of transaction arrivals by Program (PSB) during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total transaction arrivals or the number for one program or group of programs.
IARVTR	ARVTR	Reports the number of transaction arrivals by transaction name. Depending on the parameters specified with the monitor, the reported value is the total number of transaction arrivals or the number of arrivals for one transaction or group of transactions.
IPRCBG	PRCBG	Reports the number of transactions processed by balancing group (BALG) during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of transactions processed by all BALGs or the number processed by one BALG or group of BALGs.
IPRCCL	PRCCL	Reports the number of transactions processed by class during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total processed or the number processed for one class.
IPRCPR	PRCPR	Reports the number of transactions processed by a program during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total transactions processed or the number processed by one program or group of programs.
IPRCTR	PRCTR	Reports the number of transactions processed during a sampling interval. Depending on the parameters specified with the monitor, the reported value is the total number of transactions processed or the number of times one transaction or group of transactions was processed.
ISCHFL	SCHFL	Reports the number of scheduling failures during the sampling interval. Depending on the parameters specified with the monitor, the reported value is the total number of scheduling failures or the total number of failures of a single type.

IMS Dependent Regions

These monitors provide performance data about DB2 access by programs executing in the dependent regions.

Table 26. IMS Resource Monitors for Dependent Regions

View	Monitor	Description
ID2CON	D2CON	Reports the number of dependent IMS regions connected to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IMS regions connected to DB2 subsystems or the number connected to a specific DB2 subsystem.
ID2SON	D2SON	Reports the number of dependent regions that issued at least one SQL call and are signed on to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of regions signed on to DB2 or the regions signed on to a specific DB2 subsystem.
ID2THD	D2THD	Reports the number of dependent regions with active threads to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of active regions with DB2 threads or the regions with active threads to a specific DB2 subsystem.

IMS Database

These monitors provide performance data about DL/I buffer pool activity.

Table 27. IMS Resource Monitors for Database Activity

View	Monitor	Description
IDBIO	DBIO	Reports the number of database I/O by subpool for the OSAM pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database I/O for the total OSAM pool or for one subpool.
IDBHIT	DBHIT	Reports the hit ratio for the OSAM buffer pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the entire OSAM buffer pool or for one subpool.
IDBSTL	DBSTL	Reports database buffer steal writes for the OSAM pool or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database buffer steal writes for the total OSAM pool or for one subpool.
IHPACC	HPACC	Reports Hiperspace access for all VSAM buffer spools or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of successful Hiperspace reads and writes or by subpool.
IHPHIT	HPHIT	Depending on the parameters specified with the monitor, it reports the hit ratio for all VSAM buffer spools or by subpool during the sampling period.
IHPSTL	HPSTL	Reports Hiperspace buffer steals by VSAM subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of unsuccessful reads from all VSAM Hiperspace buffer pools or a single subpool.
ISBUSE	SBUSE	Reports sequential buffering storage by region during the sampling period. Depending on the parameters specified with the monitor, the reported value is kilobytes of virtual storage used by all regions, a group of regions, or a single region.
IVDBIO	VDBIO	Reports VSAM database I/O by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of I/Os for the total VSAM pool or one subpool.
IVDBWR	VDBWR	Reports VSAM writes by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of VSAM-initiated writes for the total VSAM pool or one subpool.
IVHIT	VHIT	Reports the VSAM hit ratio by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the total VSAM pool or one subpool.

IMS Internals

These monitors provide performance data about IMS internal activity for program isolation, pools, logging, latching, and pool allocation.

Table 28. IMS Internals Resource Monitors

View	Monitor	Description
ICIOP	CIOP	Reports the percentage of the communications I/O pool in use during the sampling period.
ICWAP	CWAP	Reports the percentage of the communications work area pool in use during the sampling period.
IDBWP	DBWP	Reports the percentage of the database work area pool in use during the sampling period.
IDMBP	DMBP	Reports the percentage of the DMB pool in use during the sampling interval.
IDSAP	DSAP	Reports the percentage of the Dynamic Save Area pool in use during the sampling period.
IEPCB	EPCB	Reports the percentage of the extended PCB (EPCB) pool in use during the sampling period. If Fast Path is not installed in IMS, the IEPCB plot is always zero.
IHIOP	HIOP	Reports the percentage of the high communications I/O pool (HIOP) in use during the sampling period.
ILAWT	LAWT	Reports the average latch wait time in microseconds within the sampling period or since the last IMS checkpoint if a checkpoint occurs within the interval. Depending on the parameters specified with the monitor, the reported value is the average wait time for all latch types or a specific latch type.
IMFSP	MFSP	Reports the percentage of the MFS format pool in use during the sampling period. The usage percentage of the MFS format pool is calculated as the ratio of allocated bytes to the total number of bytes that can be assigned to the pool.
IOBUFW	OBUFW	Reports the number of times that the IMS logical logger had to wait for a buffer to be written to the OLDS during the sampling period.
IOCHKW	OCHKW	Reports the number of check write requests to the IMS logical logger during the sampling period.
IPIENQ	PIENQ	Reports the number of program isolation (PI) enqueues held by IMS regions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of PI enqueues held by all IMS dependent regions or the number held by one region or group of regions.
IPIPL	PIPL	Reports the percentage of the program isolation (PI) pool in use during the sampling period. PI pool percentage usage is calculated as the ratio of allocated bytes to the total number of bytes that can be assigned to the pool.

Table 28. IMS Internals Resource Monitors

View	Monitor	Description
IPOOLA	POOLA	Reports the amount of allocated pool storage in bytes during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of allocated bytes of CSA storage, ECSA storage, or non-CBT pool storage.
IPOOLN	POOLN	Reports the difference in bytes between the total expansion and total compression of blocks allocated to non-CBT fixed storage pools.
IPOOLT	POOLT	Reports the number of times that non-CBT storage pool blocks expanded and compressed during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total block expansions and compressions for all pools or the number for a specific non-CBT fixed storage pool.
IPSBP	PSBP	Reports the percentage of the PSB pool in use during the sampling interval. If the IMS option is ILSO=S, DLISAS PSB pool usage is monitored. If the LSO option is not S, total PSB pool usage is monitored.
IPSBW	PSBW	Reports the percentage of the PSB work area pool in use during the sampling period.
IRECA	RECA	Reports the percentage of the Receive Any (RECA) pool in use during the sampling period.
IWADIO	WADIO	Reports the number of EXCPs to a WADS data set during the sampling interval. If dual WADS logging is in effect, the actual number of EXCPs is twice the reported number.
IWKAP	WKAP	Reports the percentage of the general work area pool in use during the sampling period.

IMS Interaction with OS/390

These monitors provide performance data about OS/390 resources used by IMS interaction with OS/390.

Table 29. IMS Resource Monitors for OS/390

View	Monitor	Description
ICSAUT	CSAUT	Reports the percentage of CSA storage in use during the sampling period.
IDLIO	DLIO	Reports the number of successful EXCPs for DL/I data sets allocated to the DLISAS region during the sampling period by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS DLISAS region, a group of data sets, or a single data set.
IDPAGE	DPAGE	Reports the number of demand page-ins by region during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total demand page-ins for the system or demand page-ins for one IMS region.
IECSAU	ECSAU	Reports the percentage of extended CSA storage in use during the sampling period.
IPAGE	PAGE	Reports the number of private, VIO, and swap page-ins and page-outs during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total paging for the system or paging for one IMS region.
ISYSIO	SYSIO	Reports the number of successful EXCPs for data sets allocated to the IMS control region by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS control region or the EXCPs for one data set or group of data sets allocated to IMS.

IRLM

These monitors provide performance data about IRLM activity.

Table 30. IMS Resource Monitors for IRLM

View	Monitor	Description
ILDLCK	LDLCK	Reports the number of IRLM deadlocks that occurred during the sampling period.
ILHELD	LHELD	Reports the number of IRLM locks held by an IMS dependent region during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IRLM locks held by the target IMS or by a specific region.
ILKREQ	LKREQ	Reports the number of IRLM lock requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
ILSUSP	LSUSP	Reports the number of IRLM suspensions that occurred during the sampling period.
ILWNUM	LWNUM	Reports the number of suspended IRLM requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is all suspended requests from the current target IMS, all suspended requests from all targets, or all requests suspended longer than a specified number of seconds from all targets or the current target.
IPTBLK	PTBLK	Reports the number of IRLM lock requests (IRLM 1.5 only) that resulted in a PTB process during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
IVSEND	VSEND	Reports the number of VTAM sends issued by the IRLM system (IRLM 1.5 only).

Chapter 8. Creating IMS Workload Definitions

This chapter describes how to create and maintain MAINVIEW for IMS (MVIMS) Online workload definitions, which you can use to define performance objectives for your mission critical applications.

Elements of a Workload Definition

A dialog box is used to create or modify IMS workload definitions. You fill in fields in the dialog box with values that describe each workload. The elements of a workload definition are summarized in the following sections and are described in more detail on page 133.

Workload and Composite Names

A workload name and composite name are assigned to each workload. All workloads that share the same composite name are grouped into “applications.” If your site has MAINVIEW VistaPoint installed, you can use a shared composite name to combine the performance of workloads running in IMS, CICS, DB2, and OS/390 into a common application so that you can view the performance of workloads sharing common tasks.

Service-Level Objectives

A service-level objective is defined for each workload. The objective specifies the acceptable performance for a workload. The objective is met if a specified percentage of a workload’s transactions completes within a specified elapsed time.

Monitoring Time Range

Start and end time fields are used to specify a monitoring time period for each workload.

Target ID and System ID

If you want to limit a workload to specific IMS or OS/390 systems, you can include an IMS target ID, an OS/390 system ID, or both.

Workload Resource Fields

Workloads can be qualified by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, and transaction type.

Planning IMS Workload Definitions

Before you create workload definitions, you should

- establish conventions for the workloads
- define the workload service-level objectives for each workload
- identify a critical monitoring period for each workload

Establishing Workload Conventions

IMS workload definitions are saved in BBPARM member BBFTWK00. To minimize maintenance time, the BBPARM data set with the BBFTWK00 member should be shared by all MVIMS product address spaces. Otherwise, duplicate workload definitions must be created and maintained.

Establishing logical, consistent conventions for workload and composite names is important, especially if all your workload definitions are not stored in a shared BBPARM data set. If you must use multiple BBPARM data sets for workload definitions, maintaining the definitions is much easier if you can quickly identify similar workloads.

Workload Names

The information in MVIMS Plex views can be sorted and filtered by workload name. Consistent workload names make it easier to sort and filter views to find the information that you want to display.

Workload names can be up to eight characters long, and the names should clearly represent the work performed by the target IMS. For example, the workload name IMSPAY could be used for IMS payroll transactions.

Composite Names

Composite names should represent a common function of the workloads that are part of a MAINVIEW VistaPoint application. For example, a workload composite with the name FINANCE indicates that a workload is part of the financial application. Composite names can be up to eight characters long.

Defining Workload Service-Level Objectives

A service-level objective specifies the acceptable performance of a workload. You set a service-level objective based on your assessment of the minimum percentage of transactions that must complete within an elapsed response time for the tasks that occur in a workload.

Workloads that belong to the same composite can have different service-level objectives. MVIMS and MAINVIEW VistaPoint normalize reported values to maintain consistency.

Identifying Critical Workload Monitoring Periods

There are periods of time when transaction performance is critical for a particular application, and there are other times, perhaps during the night, when performance is less critical. You can define a single workload to monitor only during an application's critical time period, or you can define multiple workloads for the application, with different monitoring periods and response time goals.

All workloads that belong to the same composite workload should have identical monitoring periods. If they have different monitoring periods, views that show combined workload performance might display misleading information.

Creating a New Workload Definition

After you establish the appropriate naming conventions, service-level objectives, and monitoring period, you can create a workload definition by completing the following steps:

1. Access the IWKLDDDEF view and change the view status from browse to edit mode.
2. Open the Add IMS Workload Definition dialog box to add a workload.
3. Assign the workload definition settings in the dialog box.
4. Save and install the workload definition.

Accessing the IWKLDDDEF View

The IWKLDDDEF view, shown in Figure 104, is the starting point for defining an IMS workload.

22MAR2002 16: 17: 39 ----- MAINVIEW WINDOW INTERFACE(R4. 0. 01) -----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1			ALT WIN ==>						
>W1 =IWKLDDDEF=====I 7AM31CT=*===== (00 BROWSE)=====MVIMS=====D=====2									
CMD	Workload	Composite	Target	System	Description		Sta	Resp	%Tr
---	Name----	Name-----		-----	-----		-----	-----	----
	IMSPAY	FINANCE	IMS15A	*	Accounts payable		Act	0.30	90
	IMSREC	FINANCE	IMS15A	*	Accounts receivable		Act	0.30	90
	IMSRET	FINANCE	IMS15A	*	Accounts return		Act	1.00	95
	IMSTEST	TEST0131	IMS*	*	IMS testing		Act	0.30	95

Figure 104. IWKLDDDEF Workload Definition List View, Browse Mode

To access the IWKLDDDEF view, you can

- type IWKLDDDEF on any command line
- type ADMIN on any command line and select the IWKLDDDEF view
- type VIEWS on any command line and select the IWKLDDDEF view

To add a workload definition (or change an existing workload definition), you must switch from browse mode to edit mode by typing **EDIT** on the IWKLDDDEF command line and pressing Enter. An edit lock is set on BBPARM member BBFTWK00, and the IWKLDDDEF view is displayed with edit mode indicated in the view information line, as shown in Figure 105 on page 132.

```

22MAR2002 16:17:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.01) -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IWKLDDDEF=====I7AMB1CT=*===== (00 EDIT          )====MVIMS====D====2
CMD Workload Composite Target System Description Sta Resp %Tr
--- Name----- Name-----
IMSPAY FINANCE IMS15A * Accounts payable Act 0.30 90
IMSREC FINANCE IMS15A * Accounts receivable Act 0.30 90
IMSRET FINANCE IMS15A * Accounts return Act 1.00 95
IMSTEST TEST0131 IMS* * IMS testing Act 0.30 95

```

Figure 105. IWKLDDDEF Workload Definition List View, Edit Mode

The primary commands and line commands provided in the IWKLDDDEF view are listed in Table 31 on page 135.

Note: If someone else is editing the BBFTWK00 member when you type the EDIT command, you will get an error message telling you that the member is not available.

Opening the Add IMS Workload Definition Dialog Box

There are two ways you can open the Add IMS Workload Definition dialog box to add a new workload definition. You can use the default workload definition settings or the settings of an existing workload as a basis for the new workload definition.

- Type the **ADD** primary command on the IWKLDDDEF command line to open the dialog box with the default workload definition settings.
- Type the **ADD** line command beside an existing workload to open the dialog box using the selected workload's settings and then specify a new workload name.

The Add IMS Workload Definition dialog box with default settings is shown in Figure 106.

```

----- ADD IMS WORKLOAD DEFINITION -----
COMMAND ==>

Workload ==>
For Target ==> *
Description ==>

Composite ==>
For System ==> *

Tran Id ==>
Class ==>
Program ==>
PSB ==>
Region ==>
RegionID ==>
Terminal ==>
User id ==>
TranType ==> (DLI, DB2, FP) PgmType ==> (MPP, MDP, TPI, DBT, NOTDBT)

Response time of ==> 1.0 seconds for ==> 100 % of transactions
Between ==> 00:00 (hh:mm) and ==> 24:00 (hh:mm)
Include Queuing ==> Y (Y, N)

```

Figure 106. Add IMS Workload Definition Dialog Box

Note: The primary commands available in the workload definition dialog box are listed in Table 32 on page 135.

Assigning the New Workload Definition Settings

This section describes the fields used to create a workload definition. For more information about the fields, press your help key to access the online help.

Workload and Composite Names

Enter the selected names for the workload and composite. Workload and composite names can be up to eight characters long, but the first character in each name must be an alpha character.

The composite workload name is used by MAINVIEW VistaPoint to combine workloads into a single application. Related IMS, CICS, DB2, and OS/390 workloads must have the same composite name if you want to monitor their combined transaction performance in a MAINVIEW VistaPoint application.

Workload name and composite name are required fields. If you do not enter a composite name, the workload name is automatically assigned as the composite name when you save the workload definition.

For information about choosing workload and composite names, see page 130.

Target and System IDs

Enter the complete target ID if you want to restrict the workload to a single IMS system, and enter the system ID if you want to restrict the workload to a single OS/390 system.

You can use wildcards (*, ?, and +) to expand a definition to include multiple IMS targets and OS/390 systems.

Target and system ID are required fields. If no ID is specified in a field, the field must contain an asterisk.

Description

Enter a description that defines the purpose of the workload. The description is a required field, and it can be up to 24 characters long.

Monitored IMS Resources

You can use the resource fields to restrict a workload by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, transaction type, and program type. The resource fields are optional.

You can use the wildcards *, ?, and + to expand a definition for the transaction ID, class, program, PSB, region job name, and region ID fields.

You can use multiple entries, separated by a comma or a space, for the transaction ID, program, PSB, region job name, terminal, and user ID fields.

Response Time and Percent of Transactions Fields

These two fields define the service-level objective for the workload. In the response time field, enter the response time goal for transactions that occur within the workload target. In the percentage field, enter the minimum percentage of transactions that must complete within the specified response time. The service-level objective is met if the specified minimum percentage of a workload's transactions complete within the specified response time.

These fields are required. If you are creating a workload definition from scratch and enter no values in the fields, the default response time of 1.0 seconds and the default percentage of 100% will be used for the workload definition.

Include Queuing

The queuing field specifies whether a workload's transaction response time will include the time transactions spend in the input queue waiting to be processed.

Saving and Installing a New Workload Definition

After you define a new workload in the Add IMS Workload Definition dialog box, you can add the workload to the current workload list by typing the SAVE command in the dialog box command field.

When you return to the IWKLDDEF view, the new workload is included in the workload list with an inactive status and the view mode is changed from EDIT to EDIT MOD, indicating that changes to the workload list are pending. At that point, you can

- type SAVE in the command field to save the definition in inactive status and keep the IWKLDDEF view open
- type END in the command field to save the definition in inactive status and return to the previous view
- type SAVE in the command field and then type INStall in the line command area beside the new workload (or vice versa) to activate the new workload and save it in the workload list
- type INStall in the line command area beside the new workload to activate it without saving it

The INStall line command immediately updates the local BBI-SS PAS, and monitoring begins for a new workload as soon as its status changes from inactive to active.

You can create a new workload for temporary use by installing it without saving it in the workload list. When you no longer need the workload, you can delete it before you save the workload list.

Commands in the IWKLDDEF View and the IMS Workload Definition Dialog Boxes

Table 31 lists the primary commands and line commands available in the IWKLDDEF view, and Table 32 lists the primary commands available in the dialog boxes for adding and changing workload definitions.

Table 31. Primary and Line Commands on the IWKLDDEF View

Primary Commands	Function
EDIT	Changes the view from browse mode to edit mode, activating the other primary and line commands.
ADD	Opens the Add IMS Workload Definition dialog box with default workload settings.
CANcel	Cancels any changes made to the workload list during an edit session by restoring the workload list to the current version in storage (ends the edit mode and returns the view to browse mode).
SAVE	Saves any changes made to the workload list and maintains the edit mode.
Line Commands	Function
ADD	Opens the Add IMS Workload Definition dialog box with the settings for the selected workload definition. You can specify a new workload name and use the settings of the selected workload as a template for a new workload definition.
CHA	Opens the Change IMS Workload Definition dialog box with the settings for the selected workload definition.
DEL	Removes a workload from the view and changes its status to deleted.
INS	Activates a workload with a modified or inactive status (and changes the workload's status to active).
PARM DELETED(*)	Redisplays deleted workloads in a different color if the workload list was not saved after the deletions were made.
UND	Changes the status of a workload from deleted to the status in effect when the DEL line command was entered against the workload

Table 32. Primary Commands on the Dialog Boxes for Adding and Changing IMS Workload Definitions

Primary Command	Function
END	Saves the workload settings and closes the dialog box.
CANcel	Cancels a new workload or changes made to an existing workload and closes the dialog box.
SAVE	Saves the workload settings.

Maintaining Workload Definitions

This section describes how to update, delete, and recover workload definitions.

Changing a Workload Definition

To change settings for a workload

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type CHA in the line command area beside the workload you want to change

The CHA change line command opens the Change IMS Workload Definition dialog box with the current settings for the workload. You can then change any field in the dialog box except the workload name field.

After you change the definition, you can either enter the CANCEL command to discard the changes or enter the END command to keep the changes intact. Both commands close the dialog box.

When you change a workload's settings and use the END command to close the Change IMS Workload Definition dialog box, the updates you made are pending. If the workload was in active status, its status is changed to modified (Mod); if it was in inactive status, its status remains inactive. The window information line shows an EDIT MOD status, which means that there are one or more unsaved workload modifications pending.

In the IWKLDDEF view, you can cancel or save changes you made to a workload definition. If you enter the CANCEL primary command, all changes made and not saved are discarded and the view mode changes from EDIT MOD mode to BROWSE mode. If you enter the SAVE primary command, all changes are saved, the IWKLDDEF view remains open, and its mode changes from EDIT MOD to EDIT. If you enter the END command, all changes are saved and the previous view is displayed.

You must install a modified workload definition to activate the changes. When you install the modified workload definition, the original workload is deactivated, and transaction monitoring begins immediately with the updated workload definition, if the current time is within the monitoring time period of the workload. If the current time is not within the workload's monitoring time period, transaction monitoring will begin when the start time is reached.

Deleting and Recovering Workload Definitions

To delete a workload definition

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type DEL in the line command area beside the workload you want to delete

When you enter the DEL line command, the workload definition disappears from the definition list, and its status is changed to deleted. If you enter the SAVE or END command, the workload is permanently deleted and cannot be retrieved.

If you have deleted a workload with the DEL line command and you have not saved the workload list with the SAVE or END command, you can retrieve the deleted workload by entering PARM DELETED(*) on the command line.

When you enter the PARM DELETED(*) command, the workload reappears in the workload list and is displayed in a different color. To recover the workload, enter the UND undelete line command in its line command area. The undelete command changes the color of the workload line to normal and changes its status from deleted to the status in effect when the DEL line command was entered against the workload.

Part 3. Solving Realtime Problems

This section describes how you can use IPSM views to analyze and solve realtime problems. For general information about views, see the *Using MAINVIEW* manual.

Chapter 9. Monitoring Region Activity	141
Accessing the Region Views	142
Region Activity Summary View	144
Region Activity Detail View	146
Region Activity DL/I View	148
Region Activity Fast Path View	149
Region Object Easy Menu	150
Chapter 10. Resolving N-Way Data Sharing Resource Contention	151
Accessing the IRLM Lock Views	152
Analyzing Lock Problems	152
Region Lock Summary View	153
Region Lock List View	155
Region Lock Wait List View	157
Resource Lock Summary View	158
Resource Lock List View	160
Resource Lock Wait List View	162
Chapter 11. Managing Terminal and User Status	163
Managing Terminal and User Status	164
Accessing Information about IMS Users	164
Identifying IMS Users	164
Solving User-Reported Problems	165
Taking Action	166
Identification of IMS Users in Sysplex Environments	166
Accessing the Terminal and User Status Views	167
Communication Activity and Status View	168
Communication Activity and Status Detail View	171
LTERM Status View	173
Node Line/PTERM Status View	175
Communications Menu	176
Accessing the User Status Views	177
User Information View	178
User Structure Status View	180
User Structure Timestamp View	182
User Related Menu	183
Chapter 12. Monitoring OTMA Clients and Servers	185
Accessing the OTMA Views	186
OTMA Client and Server Summary View	187
OTMA Group TPIPE Summary View	188
OTMA TPIPE Message Summary View	189
OTMA Message View	190
OTMA Message Detail View	192

Chapter 9. Monitoring Region Activity

This chapter shows you how to use the IPSM sysplex-enabled region views to monitor the activity of regions running under the target system. The views help you answer the following questions:

- What IMS dependent region activity is occurring?
- What work is IMS performing for currently processing transactions?
- What is the activity of this transaction?

The IPSM sysplex-enabled region views represent a powerful upgrade over previous REGNS services. They allow you to monitor the activity of groups of IMS regions from one or many different IMS systems.

Built in the MAINVIEW window environment, these views also give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and that present information the way you need to see it.

The following IPSM region views and Easy Menu are provided:

View name	Description
IRGNSUMR	Region Activity Summary
IRGNDTLR	Region Activity Detail
IRGNDLIR	Region Activity DL/I
IRGNFPLR	Region Fast Path Activity
IRGNMR	Region Object Easy Menu

Accessing the Region Views

To access the region views, you can use the IPSM hyperlinks. These hyperlinks connect directly to the sysplex-enabled region views. You can also display the generic, unfiltered version of each view by simply entering the view name on any command line within the IPSM product.

To display filtered versions of these views, hyperlink from any of the MVIMS Easy Menus (EZIFAST, EZIMS, EZISSI, EZISSR) or the appropriate fields within their pop-up submenus. (To display an Easy Menu, enter its name on any command line within the IPSM product.)

Figure 107 shows the IMS Fast Menu (EZIFAST), from which you can hyperlink to get to the IMS Resource Menu (shown in Figure 108 on page 143). From there, you can hyperlink to your choice of IPSM region views.

```

22MAR2002 14:13:13 ----- INFORMATION DISPLAY -----
COMMAND ===>                                SCROLL ===> CSR
CURR WIN ===> 1          ALT WIN ===>
WI =EZI FAST=====IMS71X=====22MAR2002=14:13:13====MVIMS====D====1

                                IMS FAST MENU
                                Timeframe - Interval

(Change) Target---> IMS71X                                Status: INACTIVE
System              +-----+ Database Activity
. IMS               | Place cursor on | . Overview
. Status            | menu item and | . Databases
. Log Status        | press ENTER | . Volumes
> IRLM Menu         +-----+ . VSAM Buffer Pools
> System Menu       . OSAM Buffer Pools
Scheduling          . Fast Path Buffer Stats
. Statistics        . Resources
. DMB Utilization   . Transactions by Status
. PSB Utilization   . Programs by Status
. Activity by Class . Databases by Status
. Activity by BALG  . Areas by Status
Regions             > Resources Menu
. Occupancy         . Cross Reference
. All Regions       . Transactions/Programs
. Processing        . Programs/Databases
. Waiting           . Databases/Transactions
.                  . Databases/Programs
Communications      > Cross Reference Menu
. Input Messages    . Tools and Menus
. Output Messages   > Utilities
. Input/Output Status > IMS Easy Menu
. Active Users      > IMS SSI Menu
. APPC              > MVIMS Main Menu
. OTMA Summary      . Installed Products
. OTMA Transactions . Return...
. SMO Structures    .

```

Figure 107. IMS Fast Menu (EZIFAST)

By moving your cursor to the first selection under the Resources section of EZIFAST and pressing Enter, you can display the IMS Resource Menu (shown in Figure 108 on page 143).

From the IMS Resource Menu, you can hyperlink to an IPSM region view filtered on the region type or status you select.

```

22MAR2002 12:28:57 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMSR=====X19H=====*=====22MAR2002==12:28:43====MVIMS=====1

                                IMS Resource Menu
                                Timeframe - Realtime
                                IMS ID ---> X19H

Regions      +-----+
. All Active Regions | Place cursor on | . OTMA Overview
. Long Running MPRs  | menu item and  |
. Waiting Regions    | press ENTER    |
. High Occupancy     +-----+
. Batch Regions
. CICS Threads
. All Regions
. Database
. Initialized
. Gen'ed
. Summarized by Status
. Summarized by Type
. Stopped

Areas
. Initialized
. Gen'ed
. Stopped
. Organization

Transactions
. Input Msg Queued
. Gen'ed
. Conversational
. WFI Trans

OTMA
. OTMA Overview

Programs
. Initialized
. Gen'ed
. Summarized by Status
. Summarized by Type
. Stopped

Tools and Menus
> Utilities
> IMS Easy Menu
> MVIMS Main Menu
> IMS SSI Menu
. Return...

```

Figure 108. IMS Resource Menu (EZIMSR)

Region Activity Summary View

A good starting point for monitoring dependent regions is the Region Activity Summary view (IRGNSUMR) shown in Figure 109 and Figure 110. This view provides information about active regions and the transactions that are currently executing. It shows

- How long a region has been idle
- Total number of locks held by the region
- Defined class
- Currently active class for the region

IRGNSUMR also shows elapsed transaction time and number of messages queued to the transaction.

Data is collected from your entire IMSplex environment, enabling you to monitor activity of multiple IMS regions across one or more OS/390 systems.

```

22MAR2002 09:34:35 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =IRGNSUMR=====IMS71X====*=====22MAR2002==09:34:35====MVIMS=====5
CMD Rgn IMS Rgn Region Tran PSB User Tot Tot Tot Tran
--- ID ID Typ Status Name Name Name DLI SQL Lock Elapsed
1 X19H MDP IDLE-WFI DFSI VP4 DFSI VP4 0.0
2 X19H MDP IDLE-WFI DFSI VP5 DFSI VP5 0.0
3 X19H MDP IDLE-WFI DBFSAMP3 DBFSAMP3 0.0
4 X19H BMP WT-IRLM TTEST02 PTEST02 PTEST02 1 1 1283.4
5 X19H BMP ACTV-USR TTEST01 PTEST01 PTEST01 1 1 1349.9

```

Figure 109. Region Activity Summary View (IRGNSUMR)

```

22MAR2002 09:43:22 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
<W1 =IRGNSUMR=====IMS71X====*=====22MAR2002==09:43:15====MVIMS=====5
CMD RGN Class Class Class Class Region Job/STC IMS MVS
--- ID 1 2 3 4 Idle name Jobname Name
1 2 3 4 5 0.1 IMSFP19X IMS71X SYSD
2 1 2 3 4 5.1 IMSFP19A IMS71X SYSD
3 1 2 3 4 1.9 IMSFP19B IMS71X SYSD
4 5 0.0 IM61BMP2 IMS71X SYSD
5 6 0.0 IM61BMP1 IMS71X SYSD

```

Figure 110. Region Activity Summary View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and then press your help key.

This high-level, tabular view provides hyperlinks to more detailed region views and to an Object Easy Menu.

The following hyperlinks are provided in the IRGNSUMR view.

Hyperlink from	To see
Rgn ID	Region Object Easy Menu (IRGNMR), where you can access additional services for each region
Tot DLI	Region Activity DL/I view (IRGNDLIR), which provides DL/I call detail information
Tot Lock	IRLM or PI Lock Detail view, which provides detailed lock information

To display an unfiltered version of this view, enter IRGNSUMR on any command line within the IPSM product. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR. (To display one of these Easy Menus, enter its name on any command line within the IPSM product.)

Region Activity Detail View

The Region Activity Detail view (IRGNDTLR), shown in Figure 111, displays detailed region information. It shows you what a transaction is doing. You can see

- Which databases a transaction accesses and how often
- How many times a transaction accesses a database and with what type of DL/I call
- Number of locks held by a BMP between checkpoints
- The transaction's resource usage

22MAR2002 09:46:41 ----- INFORMATION DISPLAY -----									
COMMAND ==>					SCROLL ==> PAGE				
CURR WIN ==> 1					ALT WIN ==>				
>W1 =IRGNDTLR=====IMS71X=====22MAR2002==09:46:41====MVIMS=====1									
Rgn ID....	5	Status.....	ACTV-USR	Trn Enq Time	00:00:00.00				
Job Name...	IM61BMP1	Trancode....	TTEST01	Trn Elap....	1556.4				
IMS ID....	X19H	PSB.....	PTEST01	Rgn Idle....					
MVS Name...	SYSD	LTERM.....		AGN.....	IVP				
XCF Name...		USER.....	PTEST01	Classes....	>5				
Rgn Type...	BMP	DB2 AUTHID..	BOLGBG2	DB2 Stat....					
MSG Switch.	N			Seq BF Usg..	0				
----- TM & DB CALL ACTIVITY -----									
DB Calls...	1	Current/Last	DLI Call	Current Lock	Detail (IRLM)				
				PI Activity.	N/A				
Msg GU....	0	Msg Other...	0	Proclim....	65535				
Msg GN....	0	Msg PURG....	0	CMD.....	0				
CHKPT.....	0	Msg ISRT	0	Get CMD....	0				
CMD.....	0	SETO.....	0	APSB.....	0				
GCMD.....	0	SETS.....	0	DPSB.....	0				
ICMD.....	0	SETU.....	0	INIT.....	0				
RCMD.....	0	ROLB.....	0	INQY.....	0				
GMSG.....	0	ROLS.....	0	AUTH.....	0				
CHNG.....	0	XRST.....	0	DB DEQ....	0				
----- FAST PATH- ACTIVITY -----									
NBA.....	0	OBA.....	0	Used.....	0				
Lock Detail									
----- DB2- ACTIVITY -----									
DB2 Name...		Control....	0	SQL Total...	0				
Plan Name...		Dynami c....	0	Inserts....	0				
SEL/FETCH..	0	DDL.....	0	Deletes....	0				
Opens.....	0	Other.....	0	Updates....	0				
----- PSB/TRAN- ACTIVITY -----									
PSB Size...	2264	Mode.....	SNGL	Convers....	NO				
PSB WA....	3360	Segment....	MULTSEG	SPA Len....	0				
Proclim...	65535	Queued.....	0	Priority....	0				
AVG Len....	132	CPU Remain..	66K	Total Deq...	0				
Prlim CPU..	66K								
----- SYSTEM- ACTIVITY -----									
Exec In....	BMP	TCB CPU....	0	Elapsed Days					
ASID.....	36	SRB CPU....	0	and Hours...	00:29:54				
Priority...	193	CPU SRV....	888	Domain.....	0				
Swap.....	NON-SWAP	IO SRV....	340	Perf Grp....	0				
		MSO SRV....	451	Perf Per....	0				
----- PAGING- ACTIVITY -----									
Work in....	0	Int Pg-ins..	0	Vio Pg-ins..	0				
Work out...	0	Int Pg-outs.	0	Vio Pg-outs.	0				
Frames....	0	Int Reclai ms	0	Vio Reclai ms	0				
Slots.....	0	Swap Count..	1	Vio Slots...	0				
Com Pg-ins.	0	Com Reclai ms	0	Int Stolen..	0				

Figure 111. Region Activity Detail View (IRGNDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and then press your help key.

The Region Activity Detail view also provides hyperlinks to enable you to directly access additional information.

The following hyperlinks are provided in the IRGNDTLR view.

Hyperlink from	To see
Rgn Type	MAINVIEW for CICS TASKXPND views (if region type is DBCTL)
DB Calls	Region Activity DL/I view (IRGNDLIR)
Current/Last DLI Call	MAINVIEW for IMS DLIST views
Current Lock Detail	IRLM or PI Lock Detail views
DB2 Name	MAINVIEW for DB2 DUSER views (if appropriate)

Region Activity DL/I View

IPSM’s Region Activity DL/I view (IRGNDLIR), shown in Figure 112 and Figure 113, shows the amount of DL/I call activity incurred by the transaction currently executing.

This view shows the total number of DL/I database calls issued by a transaction against a database. Separate totals are given for GET UNIQUE, GET NEXT, GET HOLD UNIQUE, GET HOLD NEXT, REPLACE, INSERT, and DELETE calls.

The view also shows the total number of key reads and writes and non-key reads and writes. Sysplex information is provided: OS/390 name, IMS ID, region ID.

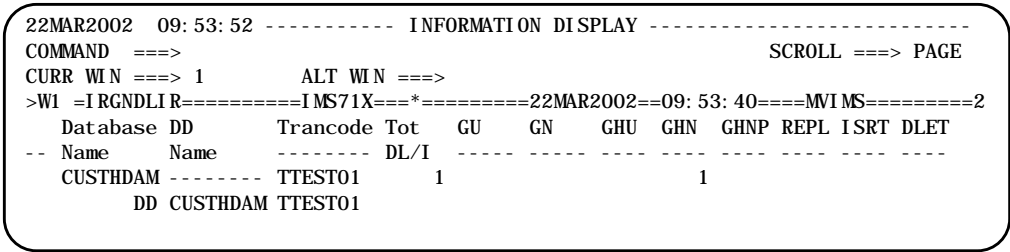


Figure 112. Region Activity DL/I View (IRGNDLIR)

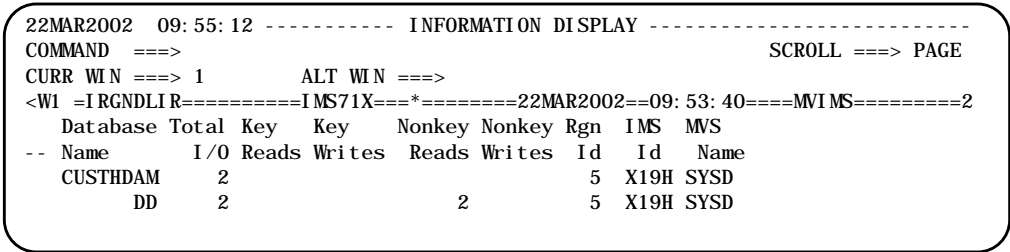


Figure 113. Region Activity DL/I View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and then press your help key.

To display an unfiltered version of the view, enter IRGNDLIR on any command line within the IPSM product and press Enter. To see information for a selected region only, hyperlink to the view from the DB Call s field in the Region Activity Detail view (IRGNDTLR).

Region Activity Fast Path View

The Region Activity Fast Path view (IRGNFPLR), shown in Figure 114, shows the region Fast Path call activity for the transaction currently processing in the selected region.

This view displays the first ten Fast Path database enqueues held by the selected region. Each record shows the Fast Path database area being accessed by the transaction, the enqueue type, and the RBA for the IMS resource being locked.

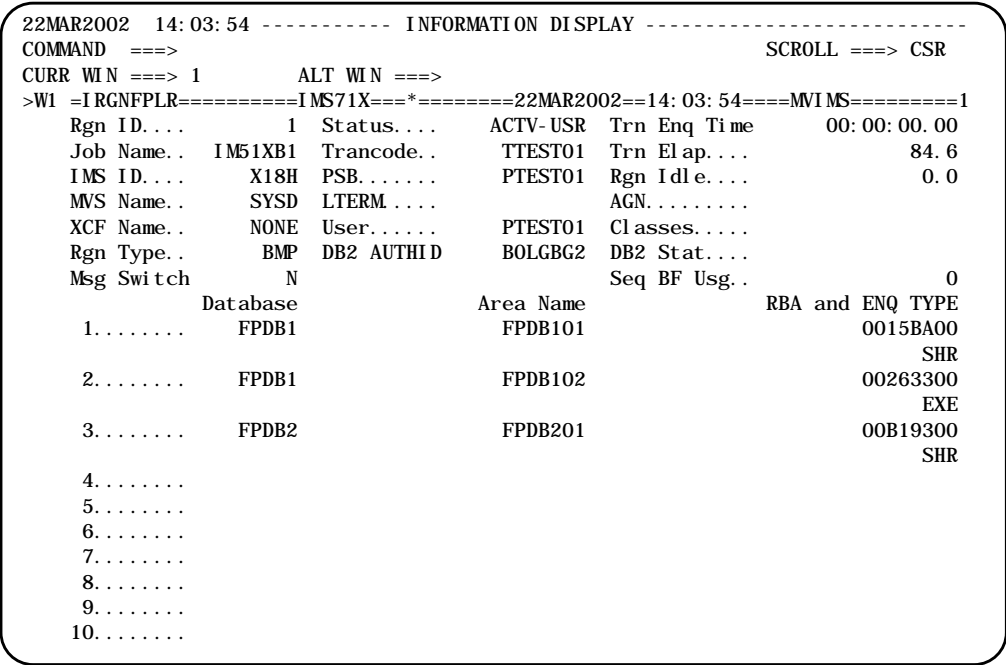


Figure 114. Region Activity Fast Path View (IRGNFPLR)

This view provides a hyperlink from the Rgn Type field to the MAINVIEW for CICS TASKXPND service (if the region type is DBCTL).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and then press your help key.

Region Object Easy Menu

The Region Object Easy Menu (IRGNMR), shown in Figure 115, is an Object Easy Menu for the region you select. From this menu you can access more detailed information about the region. You can hyperlink to

- Region-related information you can view
- Utilities that allow you to change targets or timeframes
- View criteria that allow you to filter your view

The IPSM sysplex-enabled Region Object Easy Menu allows you to hyperlink directly from the Region Detail field to the Region Activity Detail view (IRGNDTLR).

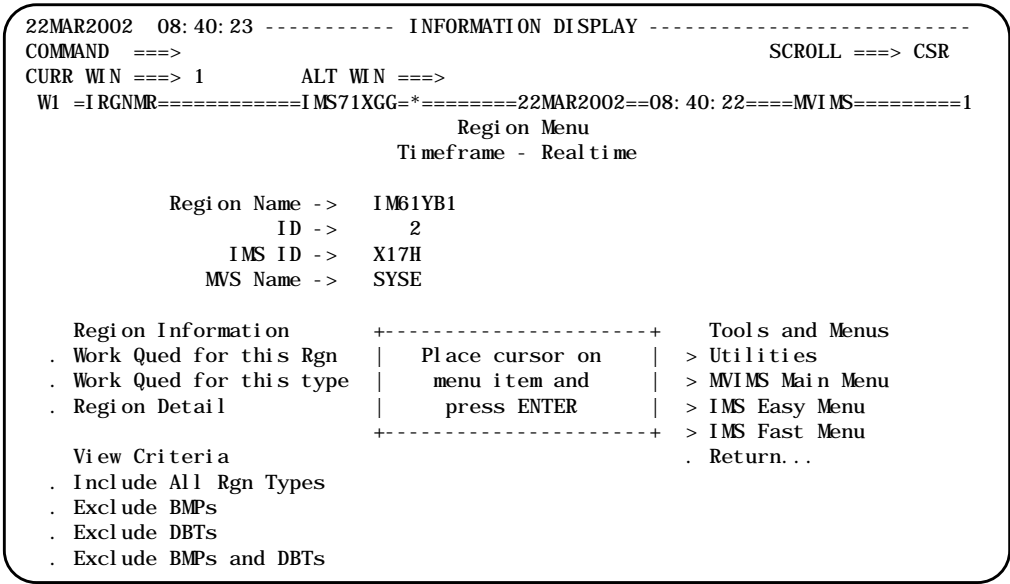


Figure 115. Region Object Easy Menu (IRGNMR)

To use this menu, position your cursor on any field that interests you and press Enter. The various menu options provide easy access to region views.

You can hyperlink to the Region Object Easy Menu from the Region Activity Detail view (IRGNDTLR). Simply select a region in IRGNDTLR view and press Enter.

Chapter 10. Resolving N-Way Data Sharing Resource Contention

This chapter discusses the sysplex-enabled IRLM lock views provided for users operating in the IPSM environment.

IPSM's IRLM Lock views make the task of recognizing and resolving N-way data sharing resource contention much easier. These views make it easy to answer the following questions:

- Is there a problem?
- How severe or widespread is it?
- Which resources are most contended for?
- How do I resolve the problem?

With views like the Resource Lock Summary view, you can quickly see which database resources are most contended for. The degree of contention is quantified in fields showing the number of regions waiting, longest wait times, and average wait times.

All views can be filtered on your most important criteria. Built in the MAINVIEW window environment, IPSM sysplex-enabled IRLM Lock views give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and to present information the way you need to see it.

The following IRLM lock views are provided:

View name	Description
ILKRGSUM	Region Lock Summary
ILKRGLST	Region Lock List
ILKRGWT	Region Lock Wait List
ILKRSSUM	Resource Lock Summary
ILKRSLST	Resource Lock List
ILKR SWT	Resource Lock Wait List

Accessing the IRLM Lock Views

You can display any of the IRLM lock views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list presented.

You can also hyperlink to the IRLM lock views from the Locking option in the IMS Easy and Fast Menus (EZIMS, EZISSI, and EZIFAST).

Analyzing Lock Problems

A good way to begin analyzing lock problems is by looking at the Wait Time field in ILKRGWT view. This field shows you the extent of any problems that may exist (for example, how long the waiters for a resource have been waiting).

To investigate a long wait time, you can hyperlink from the Wait Time field. This takes you to the Resource Lock List view (ILKRSLST). The Resource Lock List view shows you who holds the resource that is being waited for and who else may be waiting for it.

The cause of a problem may be that the holder of the resource is also waiting for another resource. To see what the holder is waiting for, hyperlink from the holder's Hold Time field. This will take you to a list of all locks held or waited for by that particular holder.

If you wish to investigate further, hyperlink from the holder's Wait Time field. You now see who holds the resource that the holder is waiting for. If desired, this process can be repeated until you find the original cause of the problem.

Region Lock Summary View

This section describes the Region Lock Summary view (ILKRGSUM), which is shown in Figure 116 and Figure 117. This view displays a list of all regions that are waiting for or holding database locks. Regions with the longest wait times are shown first. This view shows

- Every region that
 - holds a resource lock
 - is waiting for a resource lock
- How long a region has been
 - holding a lock
 - waiting for a lock
- How many resource locks the region holds
- How long the longest currently held lock has been held

You can use this view to see all regions currently using IRLM resources. To display this high-level view, enter ILKRGSUM on any command line within the IPSM product.

```
22MAR2002 10: 51: 53 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ILKRGSUM=====IMS71X==*=====22MAR2002==10: 51: 53====MVIMS=====3
CMD Rgn IMS  Rgn  Rgn Rgn  MVS      PSB      Wait Num Longest Highest
--- Id  Id   Jobname Typ Status Name      Name      Time Held Held      State
   5 X19H IM61BMP1 BMP WT-IRLM SYSD      PTEST01    5. 7    1    5. 7 W-UPD
   4 X19H IM61BMP2 BMP ACTV-USR SYSD      PTEST02          1    51. 1 H-UPD
SYS X19H DLI  -TCB SYS          SYSD          3    184. 2 H-SHR
```

Figure 116. Region Lock Summary View (ILKRGSUM)

```
22MAR2002 10: 52: 31 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =ILKRGSUM=====IMS71X==*=====22MAR2002==10: 51: 53====MVIMS=====3
CMD Rgn XCF      IRLM  Tran
--- Id  Name      Id   Name
   5 NONE      IR21
   4 NONE      IR21
SYS NONE      IR21
```

Figure 117. Region Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRGSUM view.

Hyperlink from	To see
Rgn Jobname	Detailed region information
Num Held	All resources held by a region
Wait Time	Which resource is waited for
Wait Time, then Wait Time in ILKRSWT view	All holders of a resource

Region Lock List View

This section describes the Region Lock List view (ILKRGLST), which is shown in Figure 118 and Figure 119. It shows all locks held or waited for by all regions. Locks held or waited for are shown by region. The view shows

- Every resource lock
 - held by any region
 - waited for by any region
- How long the region has been
 - waiting for the lock
 - holding the lock

To display the Region Lock List view, you can enter the view name (ILKRGLST) on any command line within the IPSM product. If you hyperlink to this view from another view, the information is filtered according to certain criteria.

```
22MAR2002 10: 53: 24 ----- INFORMATION DISPLAY -----
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===>
>W1 =ILKRGLST=====IMS71X====*=====22MAR2002==10: 53: 24====MVIMS=====6
CMD Rgn IMS Rgn Rgn Rgn Database Cur Wait Hold
--- Id Id Jobname Typ Status Name DCB/Area RBA/Type F G Sta Time Time
    5 X19H IM61BMP1 BMP WT-IRLM CUSTHDAM 1 00000D38 P G UPD 7. 2
    4 X19H IM61BMP2 BMP ACTV-USR CUSTHDAM 1 00000D38 P G UPD 52. 6
    5 X19H IM61BMP1 BMP WT-IRLM CUSTHDAM 1 000006A6 P G UPD 7. 2
SYS X19H DLI -TCB SYS COMMAND B G RO 185.
SYS X19H DLI -TCB SYS COMMAND F G RO 185.
SYS X19H DLI -TCB SYS CUSTHDAM 1 DATASET B G RO 92. 6
```

Figure 118. Region Lock List View (ILKRGLST)

```
22MAR2002 10: 54: 08 ----- INFORMATION DISPLAY -----
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===>
<W1 =ILKRGLST=====IMS71X====*=====22MAR2002==10: 53: 24====MVIMS=====6
CMD Rgn Hold PSB MVS XCF IMS IRLM Tran
--- Id Time Name Name Name Jobname Id Name
    5 PTEST01 SYSD NONE IMS71X IR21
    4 52. 6 PTEST02 SYSD NONE IMS71X IR21
    5 7. 2 PTEST01 SYSD NONE IMS71X IR21
SYS 185. SYSD NONE IMS71X IR21
SYS 185. SYSD NONE IMS71X IR21
SYS 92. 6 SYSD NONE IMS71X IR21
```

Figure 119. Region Lock List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRGLST view.

Hyperlink from	To see
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	A filtered version of the Resource Lock List view (ILKRSLST), where you can see just the waiters of a given resource
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the region has done up until now

Region Lock Wait List View

This section describes the Region Lock Wait List view (ILKRGWT), which is shown in Figure 120 and Figure 121. You can invoke this view when you want to see the list of all regions waiting for database resource locks. Regions with the longest waits are shown at the top. The view shows

- Every resource lock waited for by any region
- How long any region has been waiting for any lock

This view is a good starting point for analyzing lock problems. It highlights problems and allows you to see their extent. By hyperlinking, you can find their cause.

To display the Region Lock Wait List view, you can enter the view name (ILKRGWT) on any command line within the IPSM product, or you can hyperlink from the Number Waiters field of the Resource Lock Summary view (ILKRSSUM).

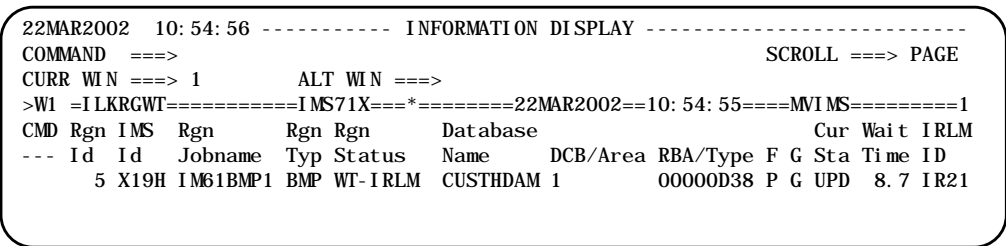


Figure 120. Region Lock Wait List View (ILKRGWT)

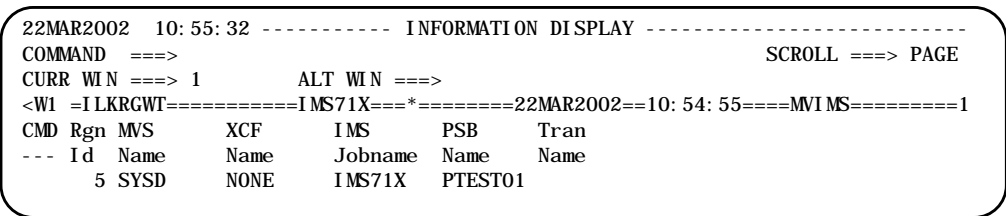


Figure 121. Region Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRGWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the thread has done up until now
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource

Resource Lock Summary View

This section describes the Resource Lock Summary view (ILKRSSUM), shown in Figure 122 and Figure 123. This view shows you which database resources are most contended for. Degree of contention for a given resource is measured by number of regions waiting (Number Waiters field), longest wait times (Oldest Waiter field), and average wait times (Avg Wait field).

With this view, you can see

- Every resource held by any participant in an N-way data sharing group
- Every resource waited for by any participant
- How many waiters there are
- How many holders there are

You can also see

- The longest wait time
- The average wait time
- The longest hold time

To display the Resource Lock Summary view, enter the view name (ILKRSSUM) on any command line within the IPSM product.

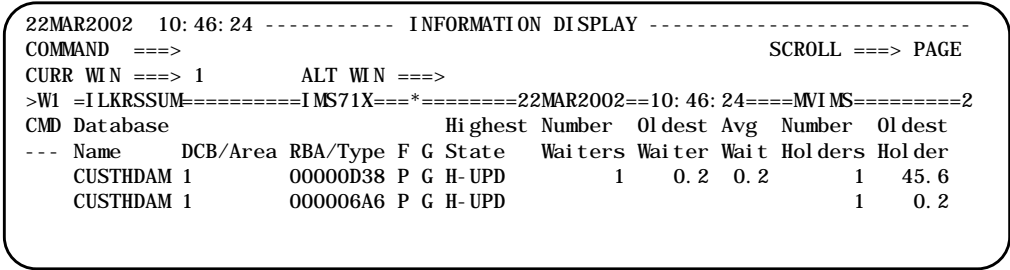


Figure 122. Resource Lock Summary View (ILKRSSUM)

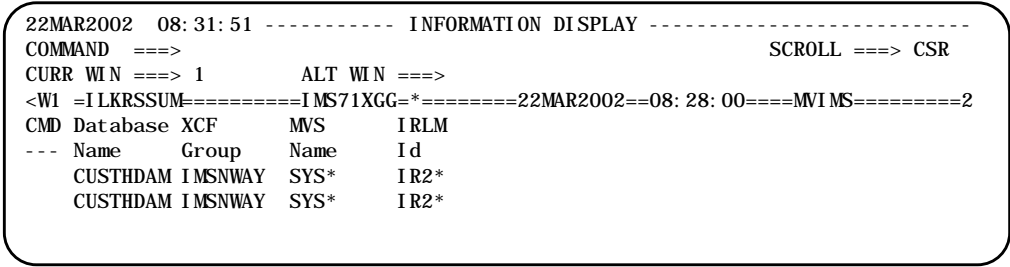


Figure 123. Resource Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRSSUM view.

Hyperlink from	To see
Number Waiter	Which regions are waiting for a resource
Number Holders	Which regions are holding a resource

Resource Lock List View

This section describes the Resource Lock List view (ILKRSLST), shown in Figure 124 and Figure 125. This view shows all waiters for and holders of any database resource. With this view, you can see

- Every resource lock held by any participant in an N-way data sharing group
- Every resource lock waited for by any participant
- How long a region has been waiting for a lock
- How long a region has been holding a lock

If you display this view without specifying any parameters (by entering ILKRSLST on any command line within the IPSM product), you see a list of all resources contended for and their respective holders and waiters.

If you are interested in a specific resource, you can hyperlink on the Wait Time field to see waiters and holders for the given resource only. (Hyperlinking *to* this view also filters it to show waiters and holders for a selected resource only.)

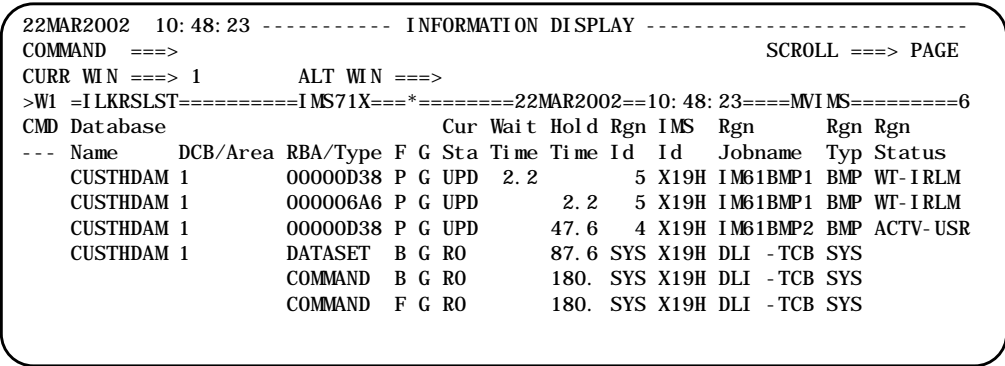


Figure 124. Resource Lock List View (ILKRSLST)

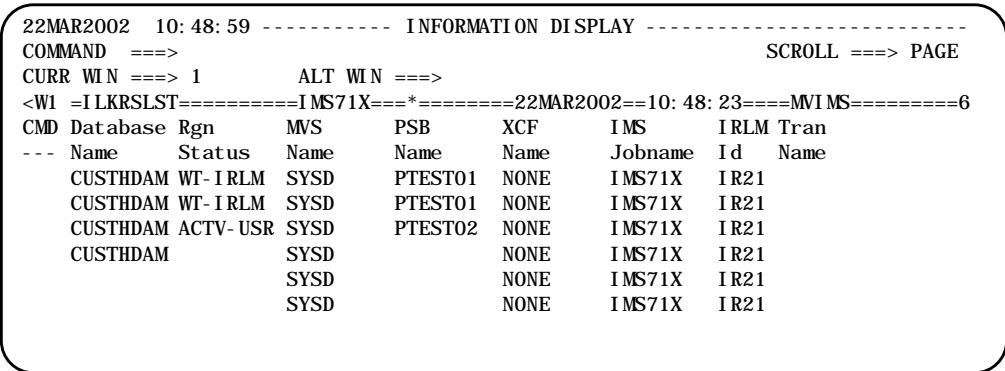


Figure 125. Resource Lock List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRSLST view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see detailed information about the region
Wait Time	Another version of the Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	Region Lock List view (ILKRGLST), where you can see all the resources held or waited for by a selected region. This information is especially helpful for analyzing lock problems where a region holding requested resources is itself waiting for another resource.

To display the unfiltered Resource Lock List view, enter the view name (ILKRSLST) on any command line within the IPSM product and press Enter. To display a filtered Resource Lock List view, hyperlink from the Wait Time field in the Region Wait List view (ILKRGWT).

Resource Lock Wait List View

This section describes the Resource Lock Wait List view (ILKRSWT), shown in Figure 126 and Figure 127. This view provides a complete list of resources against which regions are waiting to get locks. With this view, you can see

- Every resource lock waited for by any participant in an N-way data sharing group
- How long any region has been waiting

If you display this view without specifying any parameters (by entering ILKRSWT on any command line within the IPSM product), you see all resources that have regions waiting for them.

If you wish to see waiters and holders for a specific resource only, hyperlink from the Wait Time field within this view. (Hyperlinking *to* this view from the Wait Time field of ILKRGWT view also shows waiters and holders for a selected resource only.)

```

22MAR2002 10: 50: 27 ----- INFORMATION DISPLAY -----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ILKRSWT=====IMS71X====*=====22MAR2002==10: 50: 27====MVIMS=====1
CMD Database                               Cur Wait Rgn IMS  Rgn      Rgn Rgn      MVS
--- Name      DCB/Area RBA/Type F G Sta Time Id  Id   Jobname  Typ Status  Name
    CUSTHDAM 1          00000D38 P G UPD  4.3   5 X19H IM61BMP1 BMP WT-IRLM SYSD
  
```

Figure 126. Resource Lock Wait List View (ILKRSWT)

```

22MAR2002 10: 51: 05 ----- INFORMATION DISPLAY -----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =ILKRSWT=====IMS71X====*=====22MAR2002==10: 50: 27====MVIMS=====
CMD Database MVS      PSB      XCF      IRLM Tran
--- Name      Name      Name      Name      Id      Name
    CUSTHDAM SYSD      PTEST01  NONE      I R21
  
```

Figure 127. Resource Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ILKRSWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (IRGNDTLR), where you can see what processing the region has done up until now
Wait Time	Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource.

Chapter 11. Managing Terminal and User Status

This chapter describes the sysplex-enabled terminal and user status views provided for users operating in the IPSM environment. The views provide information about all VTAM and non-VTAM terminals and users, both static and dynamic, across multiple IMS systems.

Help desk operators and system programmers gain substantial advantage from the views, whether they are working with a single IMS or in a multiple-IMS environment. The status views provide

- A way to manage the status of all terminals and users
- Expanded information about IMS terminals and users
- Easy identification of IMS users and the transactions they are running
- A way to solve user-reported problems

With the IPSM status views, you can find out whether user or LTERM messages are building up in the local message queues, and you can take the appropriate action to avoid IMS message queue buildup.

The following terminal and user status views and menu are provided:

View name	Description
IUSTAT	Communication Activity and Status
IUDETAIL	Communication Activity and Status Detail
IULTERM	LTERM Status
IUNODE	Node and Line/PTERM Status
IUMUSR	Communications Menu

The following user status views and menu are provided:

View name	Description
IUSERI	User Information
IUSERS	User Structure Status
IUSERI	User Structure Timestamp
IUSRMR	User Related Menu

Managing Terminal and User Status

You can use the terminal and user status views to determine

- The status of all terminals and users, static and dynamic, VTAM and non-VTAM, across multiple IMS systems
- How many messages are queued for output
- The last transaction input entered on a terminal

You can use the views to determine why a terminal is not responsive. You can quickly access the status of a terminal by examining input/output status summaries and evaluating last transaction/LTERM information.

You can get more information by hyperlinking to a detail view that shows all the information available for a selected terminal or user.

Accessing Information about IMS Users

The IPSM terminal and user status views provide information about IMS users across multiple systems. Information includes

- Status of each user structure and its associated resources:
 - LTERM and node names for VTAM terminals and users
 - LTERM name, line number, and physical terminal number for non-VTAM terminals and users
- Output messages enqueued to the LTERM or user

Additional information includes

- Sign-on user ID (which can be different from user name for dynamically created terminals), if available
- Terminal type for users — static for users signed on to static terminals and dynamic for ETO users
- Timestamp of user structure creation (available with IMS 6.1 and later)
- Timestamp of last transaction entered (available with IMS 6.1 and later)

Identifying IMS Users

Users are not always easy to find in a sysplex environment. With shared message queues, users may log on to one IMS and yet their work may be processed somewhere else. With VGS (VTAM generic resource), the users do not even know which IMS they are logged on to.

IPSM's user status views make it unnecessary to jump from IMS to IMS to find where a user was logged on. Instead, you can issue one query from any IPSM session to find out what IMS the user is logged on to. Given just the user ID or LTERM name, the views show you the name of the IMS where current and past user sessions were created.

Solving User-Reported Problems

Once you find a user, the status views give you the ability to solve user problems quickly. You can easily determine if a user-reported problem is due to

- Work processed but not yet received by the user
- Work running but not completed
- Work queued but not running

Work Processed but Not Received

Queued messages could be waiting either from the user's current session or from an earlier session. With the status views, you can see at a glance if unreceived messages are waiting and then take appropriate action.

Work Running but Not Completed

Another common cause of a problem is that work is running but not completed. With only the user or LTERM ID to go on, you can quickly see what the last transaction was. Then you can hyperlink to the Region Activity Summary view (IRGNSUMR), where you will find all the user's transactions throughout the sysplex. Starting in the region views, you can analyze what is delaying a transaction.

Work Queued but Not Running

Another potential cause of a problem may be that the work is queued but not running. If you hyperlink to the region views but do not see the transaction running there, you can go to ITRSUMR view to check the transaction's status. If the transaction is stopped, you can issue a line command to start it. If it is not stopped, you can see if some needed resource is unavailable (for example, if no region is associated with the class or the priority is very low.) You can then take the action required to enable processing of the transaction.

Taking Action

IPSM's terminal and user status views help you determine the cause of terminal and user problems and allow you to correct the problems from your screen. You can issue line commands on the screen where you find a problem. You do not need to remember command syntax.

Table 33 lists the actions available as line commands in the terminal and user status tabular views.

Table 33. Line Commands Provided in the Terminal and User Status View

Line Command	Result
PU	Stop a user
SU	Start a user
SL	Start an LTERM
PL	Stop an LTERM

Note: Action support requires a license for MAINVIEW AutoOPERATOR for IMS.

Identification of IMS Users in Sysplex Environments

IPSM's user status views help you find users, the transactions they are running, and the causes of their problems, even in a multiple-IMS environment.

Another advantage of the user status views is that you can do extensive searches, for example, looking for all the back ends where your work may be running.

Accessing the Terminal and User Status Views

You can access the terminal and user status views by entering a view name on the command line or by entering VIEWS and then selecting the view from the list provided.

You can also access the views by selecting the Input/Output Status option on the

- IMS Easy Menus (EZIMS and EZIMSR)
- IMS Fast Menus (EZIFAST and EZIFASTR)
- IMS Menus (IMSMPG and IMSMPGR)

EZIFAST menu is shown in Figure 128.

```
22MAR2002 14:13:13 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
W1 =EZI FAST=====IMS71X==*=====22MAR2002=14:13:13====MVIMS====D====1
      IMS FAST MENU
      Timeframe - Interval
      (Change) Target---> IMS71X      Status: INACTIVE
      System      +-----+      Database Activity
      . IMS      | Place cursor on | . Overview
      . Status   | menu item and  | . Databases
      . Log Status | press ENTER  | . Volumes
      > IRLM Menu +-----+      . VSAM Buffer Pools
      > System Menu      . OSAM Buffer Pools
      . Scheduling      . Fast Path Buffer Stats
      . Statistics      . Resources
      . DMB Utilization . Transaction Summary
      . PSB Utilization . Database
      . Activity by Class . Volume
      . Activity by BALG . Database Lock
      . Regions          . Latch
      . Occupancy        . Components of Response
      . All Regions      . Transaction Summary
      . Processing       . Applications
      . Waiting          . DLI
      . Communications  . Scheduling
      . Input Messages  . DB2
      . Output Messages . Traces
      . Input/Output Status . View Traces
      . Active Users    . Manage Traces
      . APPC            . Monitors
      . OTMA Summary    . In Warning
      . OTMA Transactions . Workload Objective
      . SMQ Structures  . Wait Analysis
      .                 . Manage
      .                 . Return...
```

Figure 128. EZIFAST Easy Menu

To access the terminal and user status views from EZIFAST menu, put the cursor on the Input/Output Status option and press Enter. When you select the Input/Output Status, the Communication Activity and Status view (IUSTAT) is displayed.

Communication Activity and Status View

The Communication Activity and Status view (IUSTAT) shows the status and output message activity of all terminals and users. You can hyperlink in the **User Name** field in IUSTAT view to access the Communication Activity and Status Detail view (IUDETAIL), which shows detailed information about the selected terminal or user.

IUSTAT view summarizes the input and output status for each terminal and user as either “Good” or “Bad.” You can quickly check status by looking at the input and output status summary fields and by evaluating information in the last transaction/LTERM field.

On the Communications Menu (IUMUSR), you can select the **Devices w/“Bad” Status** option to hyperlink to an IUSTAT view that shows only those terminals and users with a Bad input or output status. That way you can isolate and monitor terminals and users with input/output problems.

You can hyperlink on a Bad status in the input or output status summary field to scroll right and locate the reason (or reasons) for the failed condition from the following possibilities (listed in the order shown on the view):

A lock command was issued.	Message queueing was stopped.
A loop test is in progress.	Message sending was stopped.
Input was stopped.	User structure is in response mode.
The LTERM is waiting for a response.	The user was stopped.
Output queueing was stopped.	A dequeue purge command was issued.
Output was stopped.	An I/O error occurred in the queue.

If IUSTAT view shows a Bad status summary for a terminal or user, you can use line commands to solve the problem. (Use of line commands requires a MAINVIEW AutoOPERATOR for IMS license.)

If a terminal or user is “hung” but has Good status indicators on IUSTAT, you can hyperlink from the **Last Trn/Ltrm** field to the Transaction Queue Status view (ITRSMR) where you can check the processing status of the last transaction requested by the terminal or user.

The Communication Activity and Status view provides the following message activity information:

- Number of messages currently enqueued to each terminal or user
- Number of messages queued for output from each terminal or user
- Age of the last message enqueued to dynamic SPQBs
- Destination of the last message entered by each terminal or user

You can hyperlink to the Communication Activity and Status view from the **Input/Output Status** option on the

- Communications Menu and the User Related Menu (IUMUSR and IUSRMR)
- IMS Easy Menus (EZIMS and EZIMSR)
- IMS Fast Menus (EZIFAST and EZIFASTR)
- IMS Detail Menus (IMSMPG and IMSMPGR)

You can hyperlink to an IUSTAT view that shows only terminals and users with a Bad status by selecting the Devices w/“Bad” Status option on the IUMUSR menu.

An example Communication Activity and Status view is shown in Figure 129, Figure 130, and Figure 131.

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> PAGE

CURR WIN ==> 1

ALT WIN ==>

>W1 =IUSTAT=====IMS71Y=====15DEC2000==15: 27: 38====MVIMS=====392

CMD	LTERM	User	Signon	NodeName	Enq	Que	I/P	O/P	Last	IMS
---	Name	Name	User ID	LinePtrm	Cnt	Cnt	Age	Stat	Stat	Trn/Ltrm ID
	MASTER			DFSPMCLB	29	29	0	Good	Good	Y19H
	DFSTCFI			DFSPMCLB	2	2	0	Good	Good	Y19H
	TMRTN	TMRTN			1	1	0	Good	Good	Y19H
	SMATER			2/ 1	30	0	0	Good	Good	Y19H
	MSNS2			10/ 2	0	0	0	Bad	Bad	Y19H
	MSNS1			10/ 1	0	0	0	Bad	Bad	Y19H
	MSNI 5			SYSDVTAM	0	0	0	Bad	Bad	Y19H

Figure 129. Communication Activity and Status View (IUSTAT)

When an IMS is using shared message queues, the Age field displays a value of SMQ, indicating that the statistic is available only for local message queue environments.

If SMQ is displayed in the Enq Cnt and Que Cnt fields, the ISQUERY parameter in BBPARM member IMFBEX00 is preventing collection of message count data for IMS systems using shared message queues. When the ISQUERY parameter is allowing collection of message count data for shared message queues, you can also use it to define the refresh rate for the data. For information about using the ISQUERY parameter, see Chapter 21, “Controlling Shared Message Queue Data Collection” on page 291.

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----																
COMMAND ==>						SCROLL ==> PAGE										
CURR WIN ==> 1			ALT WIN ==>													
+W1 =IUSTAT=====IMS71Y==*=====15DEC2000==15: 27: 38====MVIMS=====392																
CMD	LTERM	IMS	Loop Input N/L/P N/L/P N/L/P LTERM LTERM SPQB S													
---	Name	ID	Lckd	Test	Stopd	Resp	Q	Stp	Out	Stp	Q	Stp	Out	Stp	Resp	Ou
	MASTER	Y19H														
	DFSTCFI	Y19H														
	TMRTN	Y19H														
	SMATER	Y19H														
	MSNS2	Y19H				Y					Y					
	MSNS1	Y19H				Y					Y					
	MSNI 5	Y19H				Y					Y					

Figure 130. Terminal Activity and Status View, Scrolled Right

```

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =I USTAT=====IMS71Y====*=====15DEC2000==15: 27: 38====MVIMS=====392
CMD LTERM      SPQB  Purg Que  MVS
--- Name      Out Stp -ing Error ID
MASTER          SJSC
DFSTCFI         SJSC
TMRTRN          SJSC
SMMASTER        SJSC
MSNS2           SJSC
MSNS1           SJSC
MSNI 5          SJSC

```

Figure 131. Terminal Activity and Status View, Scrolled Right Again

For descriptions of the fields in IUSTAT view, see the online help. To display online field help, position the cursor on any field and press the help key.

You can control terminal and user status using line commands in IUSTAT view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to start or stop LTERMS and users. (The specific line commands for these actions are listed in the IUSTAT view help and in Table 33 on page 166.)

The following hyperlinks are provided in the IUSTAT view.

Hyperlink from	To see
LTERM Name	IUMUSR menu, where you can get quick access to terminal and user information
User Name	IUDETAIL view, where you can view all information available for a terminal or user
I/P Stat (Bad)	IUSTAT status indicator fields (scrolled right) to locate the reason for the failed condition
O/P Stat (Bad)	IUSTAT status indicator fields (scrolled right) to locate the reason for the failed condition
Last Trn/Ltrm	ITRSUMR view, where you can issue line commands against the transaction

Communication Activity and Status Detail View

The Communication Activity and Status Detail view (IUDETAIL), shown in Figure 132, provides detailed information for a selected terminal or user.

You can hyperlink to IUDETAIL view from

- The Input/Output Details option on IUMUSR and IUSRMR menus
- The User Name field on IUSTAT view
- The LTERM Name field on IUSERI view
- A node name (VTAM) or line number and PTERM number (non-VTAM) on IUSERI view

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
>W1 =IUSTAT==IUDETAIL=IMS71Y==*=====15DEC2000==15: 27: 38==MWIMS=====1			
----- User -----		----- Messages -----	
User Name.....		Input Message Count....	0
Signon User ID.....		Queue Count.....	0
SPQB Name.....		Enqueue Count.....	0
User Creation Timestamp 000000000000		Dequeue Count.....	0
In Conversation.....		Age.....	0
Conversation Held.....		OTMA Count.....	
Terminal Allocated....	Y		
----- Device -----		----- CQS -----	
LTERM Name.....	MSNI 5	CQS in Use.....	No
Node Name or Line/PTERM	SYSDVTAM	Registered.....	
Terminal Create.....	STATIC	Notified Msgs on Queue.	
Device Type.....	M VTM	----	Bad
Idle Without Shutdown..		N/L/P in Response Mode.	
In Conversation.....		N/L/P Stop for Queuing.	
Conversation Held.....		N/L/P Stop for Output..	
		LTERM Stop for Queuing.	Y
----	Bad	LTERM Stop for Output..	
Last Tran/LTERM.....		SPQB in Response Mode..	
Last Enqd Trn Timestamp 000000000000		SPQB Stop for Output...	
Input Stopped.....	Y	Purging.....	
Locked.....		Queue Error.....	
In Loop Test.....		Locked.....	
		In Loop Test.....	
IMS Job Name.....	IMS71Y		
IMS ID.....	Y71H		
MVS ID.....	SJSC		

Figure 132. Communication Activity and Status Detail View (IUDETAIL)

When an IMS is using shared message queues, the Age field displays a value of SMQ, indicating that the statistic is available only for local message queue environments.

If SMQ is displayed in the Queue Count and Enqueue Count fields, the ISQUERY parameter in BBPARM member IMFBEX00 is preventing collection of message count data for IMS systems using shared message queues. When the ISQUERY parameter is allowing collection of message count data for shared message queues, you can also use it to define the refresh rate for the data. For information about using the ISQUERY parameter, see Chapter 21, “Controlling Shared Message Queue Data Collection” on page 291.

You can control terminal and user status using line commands next to the User heading (--- User ---) in IUDETAIL view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to start or stop LTERMS and users. (The specific line commands for these actions are listed in the IUDETAIL view help and in Table 33 on page 166.)

The following hyperlinks are provided in the IUDETAIL view.

Hyperlink from	To see
User Name	IUMUSR menu, where you can get quick access to terminal and user information
LTERM Name	IULTERM view, which displays information about the status of the LTERM associated with a terminal or user
Node Name or Line/PTERM	IUNODE view, which displays information about the node (or line number and PTERM number) associated with the terminal or user
Last Tran/LTERM	ITRSUMR view, where you can issue line commands against the transaction
Age	<p>IUSER view, which has timestamps showing when the last transaction or LTERM message was enqueued and when the user structure was created</p> <p>Note: The hyperlink to IUSER is valid only when the age value is greater than zero.</p>

LTERM Status View

The LTERM Status view (IULTERM), shown in Figure 133 and Figure 134, provides information about the status of the LTERMs associated with IMS terminals and users.

You can hyperlink to IULTERM view from

- An LTERM name on IUDETAIL view
- The LTERM Status option on IUMUSR and IUSRMR menus

```

15DEC2000 15:27:38 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IULTERM=====IMS71Y=====15DEC2000==15:27:38====MVIMS=====390
CMD LTERM User Term No No Purg Sgnd CQS CQS OTMA Que NodeNam
--- Name Name Allc Send Queu Lckd ing on Inf Noti Cnt Err LinePtr
C1QAAI 1A L1WC1I 01
DFSMT CNT Y 0/
DFSRCNT Y 0/
DFSTCF Y 4/
DFSTCFI Y DFSPMCL
DFSTCG Y A036T11
ISC4XRF Y Y19H
IVPPRT1 Y 2/
TMRTRN TMRTRN
TMRSTN TMRSTN
MASTER Y DFSPMCL
MSC110 Y SYSDVTA
MSC12 Y 5/

```

Figure 133. LTERM Status View (IULTERM)

```

15DEC2000 15:27:38 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IULTERM=====IMS71Y=====15DEC2000==15:27:38====MVIMS=====390
CMD LTERM NodeName Devic Signon IMS MVS IMS
--- Name LinePtrm Type UserID ID ID Jobname
C1QAAI 1A SUBPL Y19H SJSC IMS71Y
DFSMT CNT 0/ 1 SCNSL Y19H SJSC IMS71Y
DFSRCNT 0/ 2 SCNSL Y19H SJSC IMS71Y
DFSTCF 4/ 1 TCF Y19H SJSC IMS71Y
DFSTCFI DFSPMCLB SLU-2 Y19H SJSC IMS71Y
DFSTCG A036T117 SLU-2 Y19H SJSC IMS71Y
ISC4XRF Y19H LU6.1 Y19H SJSC IMS71Y
IVPPRT1 2/ 1 SLOCL Y19H SJSC IMS71Y
TMRTRN ETO Y19H SJSC IMS71Y
TMRSTN ETO Y19H SJSC IMS71Y
MASTER DFSPMCLB SLU-2 Y19H SJSC IMS71Y
MSC110 SYSDVTAM M VTM Y19H SJSC IMS71Y
MSC12 5/ 1 M CTC Y19H SJSC IMS71Y

```

Figure 134. LTERM Status View, Scrolled Right

For descriptions of the fields in IULTERM view, see the online help. To display online field help, position the cursor on any field and press the help key.

You can control terminal and user status using line commands in IULTERM view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to start or stop LTERMS and users. (The specific line commands for these actions are listed in the IULTERM view help and in Table 33 on page 166.)

The following hyperlink is provided in the IULTERM view.

Hyperlink from	To see
LTERM Name	IUSRMR menu, where you can get quick access to terminal and user information

Node Line/PTERM Status View

The Node Line/PTERM Status view (IUNODE), shown in Figure 135, provides information about

- Status of the node for VTAM terminals and users
- Status of the line number and physical terminal number for non-VTAM terminals and users

The view is useful for diagnosing problems associated with VTAM or non-VTAM sessions.

You can hyperlink to IUNODE view from

- A node name or line number and PTERM number in IUDETAIL view
- The Node Status option on IUMUSR and IUSRMR menus.

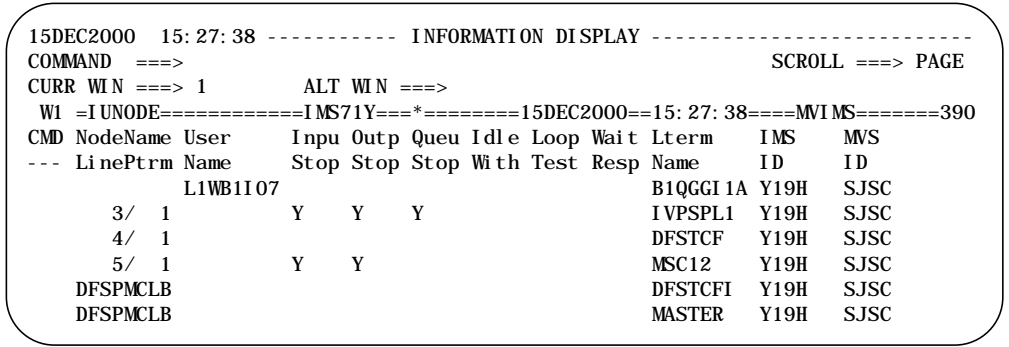


Figure 135. Node Line/PTERM Status View (IUNODE)

For descriptions of the fields in this view, see the online help. To display online help for a field, position the cursor on the field and press the help key.

You can control terminal and user status using line commands in IUNODE view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to start or stop LTERMS and users. (The specific line commands for these actions are listed in the IUNODE view help and in Table 33 on page 166.)

The following hyperlink is provided in the IUNODE view.

Hyperlink from	To see
NodeName LinePtrm	IUSRMR menu, where you can get quick access to terminal and user information

Communications Menu

The Communications Menu (IUMUSR), shown in Figure 136, is the easy menu for the terminal or user you select from a tabular view. The menu gives you quick access to terminal and user information.

You can hyperlink to the Communications Menu from

- IUSTAT view by positioning the cursor in the LTERM Name field and pressing Enter
- IUDETAIL view by positioning the cursor in the User Name field and pressing Enter

The Communications Menu will be displayed, filtered on the terminal or user you selected.

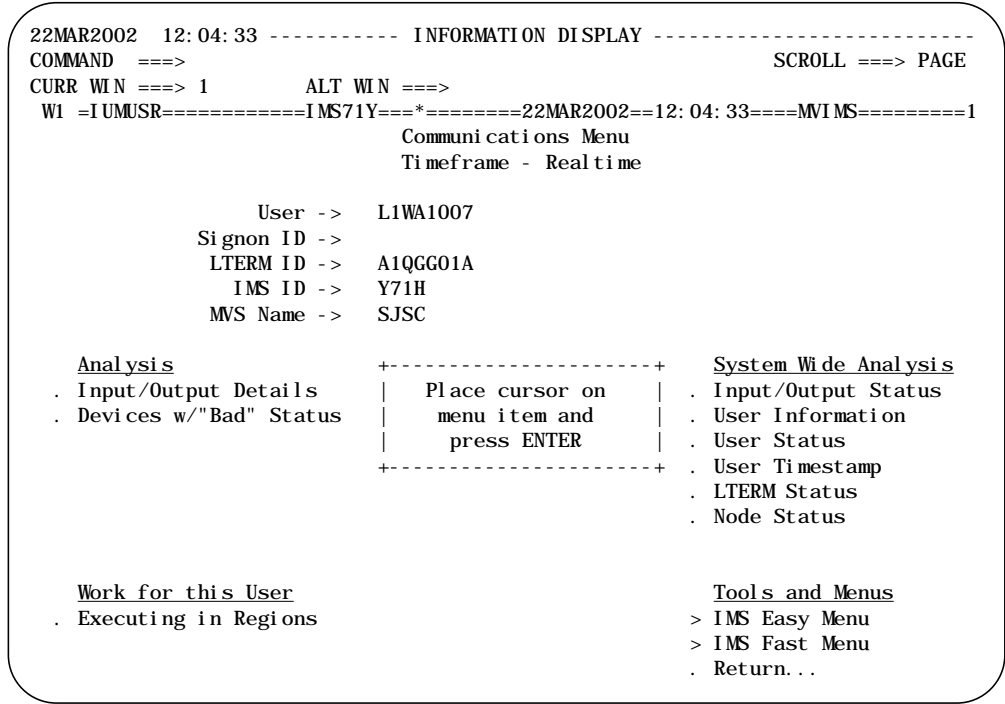


Figure 136. Communications Menu (IUMUSR)

To use the Communications Menu, position the cursor on any option of interest and press Enter. A view providing the information you requested will be displayed.

If you want to see the regions running a terminal's work, for example, you can hyperlink from the Executing in Regions option to a region view that shows just the regions that are currently running the terminal's work.

You can select Devices w/"Bad" Status to hyperlink to an IUSTAT view filtered to show only terminals and users with a Bad status. That way you can isolate and monitor terminals and users with input/output problems.

Accessing the User Status Views

You can display the user status views by entering the view name on the command line or by entering VIEWS and then selecting the view from the list provided.

You can hyperlink to the user status views from the

- Active Users option on the IMS Easy Menus (EZIMS and EZIMSR)
- Users option on the IMS Fast Menus (EZIFAST and EZIFASTR)

The EZIMS menu is shown in Figure 137.

```
22MAR2002 14:12:30 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
W1 =EZIMS=====IMS71X====*=====22MAR2002=14:12:30====MVIMS====D====1
      IMS EASY MENU
      Timeframe - Interval

      (Change) Target---> IMS71X      Status: INACTIVE
      Performance      +-----+      Resources
      . IMS System      | Place cursor on |      . Transactions
      . Processing by Class | menu item and |      . Programs
      . Processing by BALG | press ENTER  |      . Databases
      +-----+      . Areas

      Activity      Exceptions      Cross Reference
      . Region Occupancy      . Current Delays      . Transactions/Programs
      . Region Activity      . Database Lock Waits      . Programs/Databases
      . Database Activity      . Waiting Regions      . Databases/Transactions
      .                  . Alarms in Exception      . Databases/Programs
      .                  > Stopped Resources

      Communications      Transaction Analysis      Tools and Menus
      . Input Messages Queued      . Delay Factors      > Utilities
      . Output Messages Queued      . Components of Response      > IMS Fast Menu
      . Input/Output Status      . Traces      > IMS SSI Menu
      . Active Users      Monitors      > MVIMS Main Menu
      . OTMA      . In Warning      . Installed Products
      . APPC      . Active      . Return...
      . Structures and Queues      . Workload Objective
      .                  . Area Summary
```

Figure 137. EZIMS Easy Menu

To access the user views from the EZIMS menu, position the cursor on the Active Users option (under the workload section) and press Enter. When you select the Active Users option, the User Information view (IUSERI) is displayed.

User Information View

The User Information view (IUSERI), shown in Figure 138, displays summary information about IMS users, both static and dynamic, across multiple systems. It identifies the currently signed-on user. It also reports the name of any user for whom work (input or output messages) is queued, regardless of whether that user is currently signed on, which lets you know if work is pending for that user the next time the user signs on.

This view is a good place to start when users call in with a problem. It identifies which IMS the user is logged on to, and it shows the user's last transaction. It identifies the number of output messages put into the LTERM queue, as well as the number of messages remaining (unreceived) on the queue. That information can help you provide quick answers when users in response mode call in with a problem.

The IUSERI view identifies the LTERM associated with each user structure and indicates whether the user structure was dynamically created. It provides the node identification for VTAM users and the line number and physical terminal number for non-VTAM users.

You can hyperlink to the User Information view from the

- Active Users option on the IMS Easy Menus (EZIMS and EZIMSR)
- Users option on the IMS Fast Menus (EZIFAST and EZIFASTR).

15DEC2000 16: 04: 07 ----- INFORMATION DISPLAY -----											
>W1 =IUSERI=====IMS71Y====*=====22MAR2002==14: 14: 53=====MVIMS=====390											
CMD	User	Signon	LTERM	NodeName	Enq	Que	Last	Dy	IMS	MVS	
---	Name	User ID	Name	LinePtrm	Cnt	Cnt	Age	Trn/Ltrm	Cr ID	ID	
	TMRTRN		TMRTRN		1	1	0		Y	Y19H	SJSC
	TMRSTN		TMRSTN		1	1	0		Y	Y19H	SJSC
	L1WC1008		C1QHH01A		0	0	0			Y19H	SJSC
	L1WA1I01		A1QAAI 1A		0	0	0			Y71H	SJSC
	L1WA1001		A1QAA01A		0	0	0			Y71H	SJSC
	L1WA1I02		A1QBBI 1A		0	0	0			Y71H	SJSC
	L1WA1002		A1QBB01A		0	0	0			Y71H	SJSC
	L1WA1I03		A1QCCI 1A		0	0	0			Y71H	SJSC
	L1WA1003		A1QCC01A		0	0	0			Y71H	SJSC
	L1WA1I04		A1QDDI 1A		0	0	0			Y71H	SJSC
	L1WA1004		A1QDD01A		0	0	0			Y71H	SJSC
	L1WA1I05		A1QEEI 1A		0	0	0			Y71H	SJSC

Figure 138. User Information View (IUSERI)

When an IMS is using shared message queues, the Age field displays a value of SMQ, indicating that the statistic is available only for local message queue environments.

If SMQ is displayed in the Enq Cnt and Que Cnt fields, the ISQUERY parameter in BBPARM member IMFBEX00 is preventing collection of message count data for IMS systems using shared message queues. When the ISQUERY parameter is allowing collection of message count data for shared message queues, you can also use it to define the refresh rate for the data. For information about using the ISQUERY parameter, see Chapter 21, "Controlling Shared Message Queue Data Collection" on page 291.

For descriptions of the fields in this view, see the online help. To display online help for a field, position the cursor on the field and press the help key.

You can control user status using line commands in IUSERI view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to stop or start users and to start or stop LTERMS. (The specific line commands for these actions are listed in the IUSERI view help and in Table 33 on page 166.)

The following hyperlinks are provided in the IUSERI view.

Hyperlink from	To see
User Name	IUSRMR menu, where you can get quick access to terminal and user information
LTERM Name	IUDETAIL view, where you can view all information available for a terminal or user
NodeName LinePtrm	IUDETAIL view, where you can view all information available for a terminal or user
Last Trn/Ltrm	ITRSUMR view, where you can issue line commands against the transaction

User Structure Status View

The User Structure Status view (IUSERS) provides information about the status of the IMS user structure.

The view indicates whether a user structure is stopped, is in response mode, or has held a conversation. It also indicates the number of messages queued and the last transaction entered by the user.

IUSERS view displays the user name and sign-on ID (which can be different from the user structure name for dynamic terminals) and the name of the user's associated LTERM, node, SSI target, and OS/390.

When you arrive at this view by hyperlinking on the User Status option in IUSRMR or IUMUSR menus, the information is filtered on the user name you selected from a previous view. To see an unfiltered view, enter IUSERS on any command line within the IPSM product.

An example User Structure Status view is shown in Figure 139 and Figure 140.

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----

COMMAND ==>>

SCROLL ==>> PAGE

CURR WIN ==>> 1ALT WIN ==>>

>W1 =IUSERS=====IMS71Y==*=====15DEC2000==15: 27: 38====MVIMS=====390

CMD	User	Signon	LTERM	Que	Stop	Conv	Resp	Last	Term	NodeName	IMD
---	Name	User ID	Name	Cnt	4	Op	Held	Mode	Trn/Ltrm	Create	LinePtrm ID
	LBUSR1		LBUSR2	1					DYN		Y19H
	LBUSR3		LBUSR3	1					DYN		Y19H
	L1WA1002		A1QBB01A	0					STATIC		Y71H
	L1WA1103		A1QCCI 1A	0					STATIC		Y71H
	L1WA1003		A1QCC01A	0					STATIC		Y71H
	L1WA1104		A1QDDI 1A	0					STATIC		Y71H
	L1WA1004		A1QDD01A	0					STATIC		Y71H

Figure 139. User Structure Status View (IUSERS)

If SMQ is displayed in the Que Cnt field, the ISQUERY parameter in BBPARM member IMFBEX00 is preventing collection of message count data for IMS systems using shared message queues. When the ISQUERY parameter is allowing collection of message count data for shared message queues, you can also use it to define the refresh rate for the data. For information about using the ISQUERY parameter, see Chapter 21, “Controlling Shared Message Queue Data Collection” on page 291.

```

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IUSERS=====IMS71Y=====15DEC2000==15: 27: 38====MVI MS=====390
CMD User      IMS      MVS      IMS
--- Name      ID        ID        Jobname
  LBUSR1      Y19H      SJSC      IMS71Y
  LBUSR3      Y19H      SJSC      IMS71Y
  L1WA1002    Y19H      SJSC      IMS71Y
  L1WA1103    Y19H      SJSC      IMS71Y
  L1WA1003    Y19H      SJSC      IMS71Y
  L1WA1104    Y19H      SJSC      IMS71Y
  L1WA1004    Y19H      SJSC      IMS71Y

```

Figure 140. User Structure Status View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online help for a field, position the cursor on the field and press the help key.

You can control user status using line commands in IUSERS view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to stop or start users and to start or stop LTERMS. (The specific line commands for these actions are listed in the IUSERS view help and in Table 33 on page 166.)

The following hyperlink is provided in the IUSERS view.

Hyperlink from	To see
User Name	IUSRMR menu, where you can get quick access to terminal and user information

User Structure Timestamp View

The User Structure Timestamp view (IUSERST), shown in Figure 141 and Figure 142, is available when you are running with IMS 6.1 or later. The view displays an IMS internal timestamp to indicate when the user structure was created and when the last transaction or LTERM message was enqueued.

```

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IUSERST=====IMS71Y====*=====15DEC2000==15: 27: 38====MVIMS=====392
CMD User      Signon  User Creatio Last      Last Enq Trn LTERM      NodeName IMS
--- Name      User ID  Timestamp    Trn/Ltrm  Timestamp    Name      LinePtrm ID
  LBUSR1      2000353F2054      000000000000 LBUSR1      Y71H
  L1WA1I01      0491032D0000      000000000000 A1QAAL 1A      Y71H
  L1WA1I02      0493032D0000      000000000000 A1QBBI 1A      Y71H
  L1WA1I03      0496032D0000      000000000000 A1QCCI 1A      Y71H
  L1WA1I04      0498032D0000      000000000000 A1QDDI 1A      Y71H
  L1WA1I05      0500032D0000      000000000000 A1QEEL 1A      Y71H

```

Figure 141. User Structure Timestamp View (IUSERST)

```

15DEC2000 15: 27: 38 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IUSERST=====IMS71Y====*=====15DEC2000==15: 27: 38====MVIMS=====392
CMD User      IMS      MVS      IMS
--- Name      ID      ID      Jobname
  LBUSR      Y71H      SJSC      IMS71Y
  L1WA1I01 Y71H      SJSC      IMS71Y
  L1WA1I02 Y71H      SJSC      IMS71Y
  L1WA1I03 Y71H      SJSC      IMS71Y
  L1WA1I04 Y71H      SJSC      IMS71Y
  L1WA1I05 Y71H      SJSC      IMS71Y

```

Figure 142. User Structure Timestamp View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online help for a field, position the cursor on the field and press the help key.

You can control user and terminal status using line commands in IUSERST view (if you have a license for MAINVIEW AutoOPERATOR for IMS). You can use line commands to stop or start users and to start or stop LTERMS. (The specific line commands for these actions are listed in the IUSERST view help and in Table 33 on page 166.)

The following hyperlink is provided in the IUSERST view.

Hyperlink from	To see
User Name	IUSRMR menu, where you can get quick access to terminal and user information

User Related Menu

The User Related Menu (IUSRMR), shown in Figure 143, is a starting point for linking to specific user information.

When you hyperlink to the User Related Menu from a user or terminal entry on a tabular display, the menu will be filtered on the entry you selected. You can hyperlink to IUSRMR menu from the

- User Name field on IUSERI, IUSERS, and IUSERI views
- LTERM Name field on IULTERM view
- NodeName LinePtrm on IUNODE view

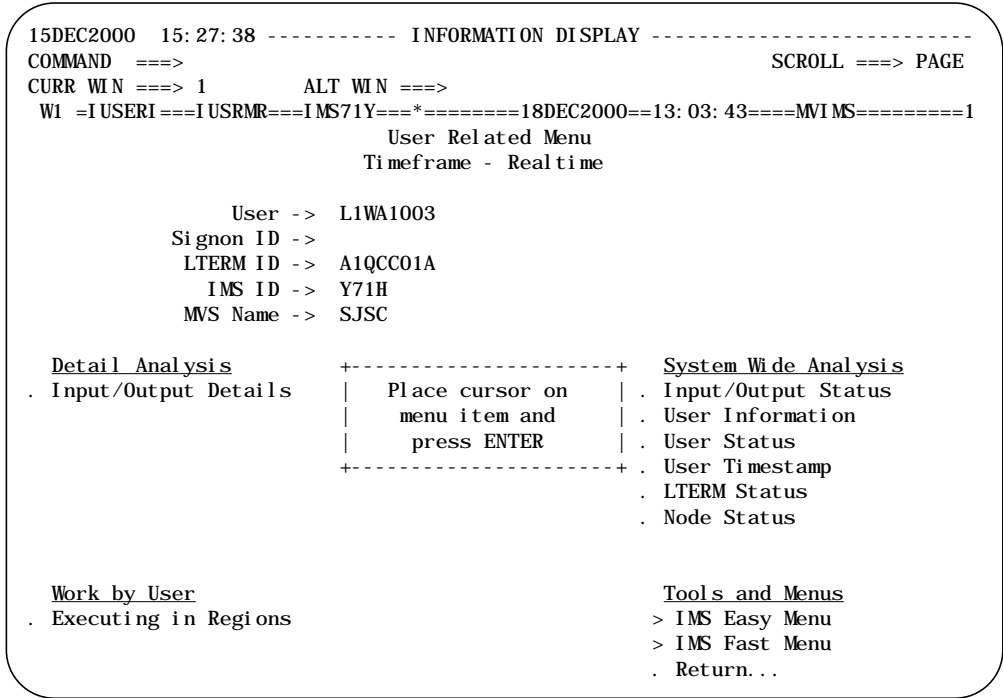


Figure 143. User Related Menu (IUSRMR)

To use the User Related Menu, position the cursor on any option of interest and press Enter. A view providing the information you requested will be displayed.

If you want to see the region(s) running a user’s work, for example, you can hyperlink from the Executing in Regions option to a region view that shows just the regions that are currently running the user’s work.

Chapter 12. Monitoring OTMA Clients and Servers

This chapter discusses the sysplex-enabled OTMA views provided for users operating in the IPSM environment.

IPSM's OTMA views help you examine the topology and status of IMS OTMA clients, servers, and the transactions they are running. These views help you quickly answer the following questions:

- Which clients (MQSeries, TCP/IP, and so on) are associated with which server?
- Which clients are ready to send and receive transaction messages?
- Which transactions are the IMS servers currently processing?
- Which resources are being used?

The IPSM OTMA views give you a sysplex-wide overview. They provide you with both summary and detail views. The views show you status and detail about IMS OTMA clients, servers, transactions, and resources. They show information about

- Connection status
- XCF status
- Conversations
- Number of TPIPEs
- Number of messages enqueued
- TPIPE transaction
- Transaction origin

The following OTMA views are provided:

View name	Description
IOTMASUM	OTMA Client and Server Summary
ITPIPSUM	OTMA Group TPIPE Summary
ITPIPTRN	OTMA TPIPE Message Summary
IOTMATRN	OTMA Message
IOTMDTLR	OTMA Message Detail

Accessing the OTMA Views

You can display any of the OTMA views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list presented.

You can also access the views by hyperlinking from the OTMA option of the IMS Easy Menu (EZIMS) or the IMS Resource Menu (EZIMSRS).

Note: Relevant OTMA-related information (such as TPIPE name) is also displayed in other IPSM/MVIMS views, such as regions and trace views. Users may want to use the information collected in those views as part of their analysis.

OTMA Client and Server Summary View

This section describes the OTMA Client and Server Summary view (IOTMASUM), which is shown in Figure 144 and Figure 145. This view is a good starting point for examining the status of clients and servers and the transactions they are running.

IOTMASUM view displays information about every OTMA server and its clients. It shows OTMA connection status and XCF status for each member. For every member, it also shows the number of TPIPEs, messages enqueued, and conversations.

To display this view, you can enter the view name on any command line within the IPSM product. You can also hyperlink to this view from the IMS Easy Menu (EZIMS).

```
22MAR2002 15:41:36 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>WI =IOTMASUM=====IMS71X====*=====22MAR2002==15:38:32====MVI MS=====2
OTMA OTMA Connection Num Num
Member Name Type Server Name Status Msgs Tpipes
CSQ3 Client IMS71X Accepting MSG traffic 2 1
IMS71X Server * Enabled 2 1
```

Figure 144. OTMA Client and Server Summary View (IOTMASUM)

```
22MAR2002 15:42:36 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<WI =IOTMASUM=====IMS71X====*=====22MAR2002==15:38:32====MVI MS=====2
OTMA Num Sync Asyn OTMA XCF Secure IMS Server
Member Name Tpipes Conv Conv Group Status Level ID MVS name
CSQ3 1 0 0 IMFOTMA Active X19H SYSD
IMS71X 1 2 0 IMFOTMA Active None X19H SYSD
```

Figure 145. OTMA Client and Server Summary View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IOTMASUM view.

Hyperlink from	To see
Num Msgs	ITPIPTRN view, which provides a summarization by message name of all the messages associated with a specific TPIPE of a specific member (client or server) of an OTMA group
Num Tpipes	ITPIPSUM view, which provides TPIPE message information, summarized by TPIPE name

OTMA Group TPIPE Summary View

This section describes the OTMA Group TPIPE Summary view (ITPIPSUM), which is shown in Figure 146 and Figure 147.

The IPSM OTMA Group TPIPE Summary view shows you summarized TPIPE information for one or more members of single or multiple OTMA groups.

This view shows you each TPIPE name, started or stopped status, and both current and total number of messages enqueued to a server by a client. The view indicates whether the TPIPE is synchronized and whether it is traced. It also shows the XCF group name and member name, as well as the IMS ID and OS/390 name of the server.

To display this view, you can enter the view name on any command line within the IPSM product. You can also hyperlink to this view from the Num Tpipes field in IOTMASUM view.

```
22MAR2002 15:43:06 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =IOTMASUM=ITPIPSUM=IMS71X====*=====22MAR2002==15:38:32====MVIMS=====1
TPIPE      TPIPE      Num      TPIPE      TPIPE      OTMA      OTMA      IMS
Name       Status     Msgs    Synced   Trace    Group    Member Name  ID
CSQ80072   Started          2 Not Sync Off    IMFOTMA  CSQ3        X19H
```

Figure 146. OTMA Group TPIPE Summary View (ITPIPSUM)

```
22MAR2002 15:43:17 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
<W1 =IOTMASUM=ITPIPSUM=IMS71X====*=====22MAR2002==15:38:32====MVIMS=====1
TPIPE      IMS Server
Name       ID   MVS name
CSQ80072   X19H SYSD
```

Figure 147. OTMA Group TPIPE Summary View, Scrolled Right

For descriptions of the fields in ITPIPSUM view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlink is provided in the ITPIPSUM view.

Hyperlink from	To see
Num Msgs	ITPIPTRN view, which provides TPIPE transaction information

OTMA TPIPE Message Summary View

This section describes the OTMA TPIPE Message Summary view (ITPIPTRN), which is shown in Figure 148 and Figure 149.

The IPSM OTMA TPIPE Message Summary view shows you summarized TPIPE message information. It shows message name and status, and the associated TPIPE name. It also indicates the XCF group name and member name, and the IMS ID and OS/390 name of the server.

To display this view, you can enter the view name on any command line within the IPSM product. You can also hyperlink to this view from the Num Msgs field of IOTMASUM or ITPIPSUM view.

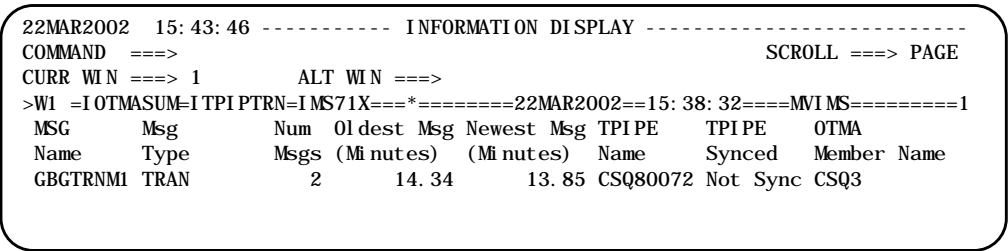


Figure 148. OTMA TPIPE Message Summary View (ITPIPTRN)

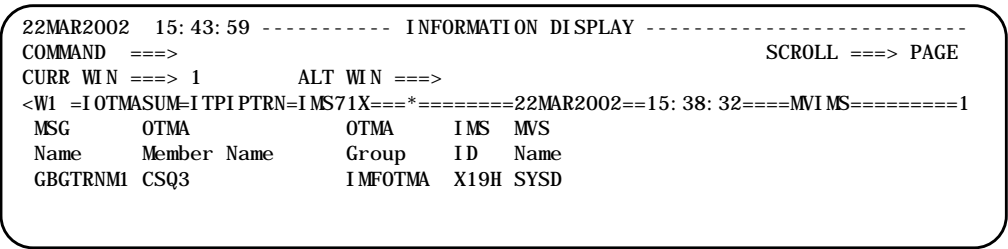


Figure 149. OTMA TPIPE Message Summary View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ITPIPTRN view.

Hyperlink from	To see
Msg Name	ITRDTLR view, which provides detailed realtime information about this IMS transaction (if it is a transaction)
Num Msgs	IOTMATRN view, which provides unsummarized OTMA message information

OTMA Message View

This section describes the OTMA Message view (IOTMATRN), which is shown in Figure 150, Figure 151, Figure 152, Figure 153, and Figure 154.

The IPSM OTMA Message view shows you unsummarized OTMA message information. Each row represents a single message, which could be a transaction, an IMS command, a response, or data. It provides specific information about individual messages.

Information shown includes message type, name, and segments; age in minutes; date and time queued; send and recovery sequence numbers; sense and reason codes; transaction mode and map name; override LTERM, security level, and OTMA architecture level; member name, status, and type; client type, OTMA group, and server name; IMS ID, OS/390 name, and TPIPE name; whether TPIPE synchronized; commit mode, sync level, correlator ID, context ID, and server token.

When you identify the message you are interested in, you may wish to hyperlink from that message name to the IOTMDTLR view. This allows you to examine the same information for a single message, without having to scroll right four times.

To display IOTMATRN view, you can enter the view name on any command line within the IPSM product. You can also hyperlink to this view from the Num Msgs field of ITPIPTRN view.

```
22MAR2002 15:44:26 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =IOTMASUM=IOTMATRN=IMS71X====*=====22MAR2002==15:38:32====MVIMS=====2
Msg      Message  Msg Date   Time      SendSeq RecovSeq Client  OTMA
Name     Type     Segm Queued Queued    Number  Number  Type   Group
GBGTRNMI TRAN     SNGL 22MAR2002 23:24:12      1      MQSeries IMFOTMA
GBGTRNMI TRAN     SNGL 22MAR2002 23:24:41      2      MQSeries IMFOTMA
```

Figure 150. OTMA Message View (IOTMATRN)

```
22MAR2002 15:44:40 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
+W1 =IOTMASUM=IOTMATRN=IMS71X====*=====22MAR2002==15:38:32====MVIMS=====2
Msg      OTMA      OTMA      TPIPE    TPIPE    Sense Reason Transact Com
Name     Group     Member Name Name     Synced   Code  Code   Mode   Mod
GBGTRNMI IMFOTMA  CSQ3      CSQ80072 Not Sync N/A   N/A    NON-CONV 1
GBGTRNMI IMFOTMA  CSQ3      CSQ80072 Not Sync N/A   N/A    NON-CONV 1
```

Figure 151. OTMA Message View, Scrolled Right

```

22MAR2002 15:45:17 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IOTMASUM=IOTMATRN=IMS71X==*=====22MAR2002==15:38:32====MVIMS=====2
Msg      Commit Sync Map      Server      Correlator
Name     Mode  Level Name      Token      ID
GBGTRNMI 1      1      Name      Token      ID
GBGTRNMI 1      1      Name      Token      ID
GBGTRNMI 1      1      Name      Token      ID

```

Figure 152. OTMA Message View, Scrolled Right a Second Time

```

22MAR2002 15:45:33 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IOTMASUM=IOTMATRN=IMS71X==*=====22MAR2002==15:38:32====MVIMS=====2
Msg      Correlator Context
Name     ID          ID
GBGTRNMI 7F5E703800000000B0106550E4144C01
GBGTRNMI 7F5E703800000000B010656C73838A02

```

Figure 153. OTMA Message View, Scrolled Right a Third Time

```

22MAR2002 15:45:50 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IOTMASUM=IOTMATRN=IMS71X==*=====22MAR2002==15:38:32====MVIMS=====2
Msg      Override Security Arc IMS MVS
Name     LTERM  Level  Lvl ID  Name
GBGTRNMI          FULL    1 X19H SYSD
GBGTRNMI          FULL    1 X19H SYSD

```

Figure 154. OTMA Message View, Scrolled Right a Fourth Time

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlink is provided in the IOTMATRN view.

Hyperlink from	To see
Msg Name	IOTMDTLR view, which provides detailed information about a single message

OTMA Message Detail View

This section describes the OTMA Message Detail view (IOTMDTLR), which is shown in Figure 155.

The IPSM OTMA Message Detail view shows you specific, unsummarized OTMA message information about a single message, which could be a transaction, an IMS command, a response to IMS, or data.

Information is the same as that shown in the OTMA Message view. It includes message type, name, and segments; age in minutes; date and time queued; send and recovery sequence numbers; sense and reason codes; transaction mode and map name; override LTERM, security level, and OTMA architecture level; member name, status, and type; client type, OTMA group, and server name; IMS ID, OS/390 name, and TPIPE name; whether TPIPE sync'd; commit mode, sync level, correlator ID, context ID, and server token.

To display this view, you can enter the view name on any command line within the IPSM product. You can also hyperlink to this view from the Msg Name field of IOTMATRN view.

```
22MAR2002 15:46:14 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1      ALT WIN ===>
>W1 =IOTMDTLR=====IMS71X====*=====22MAR2002==15:46:14====MVI MS=====1
Msg Type.....      TRAN      Member Name..      CSQ3
Msg Name.....      GBGTRNMI      Member Status      Accepting MSG traffic
Msg Segments....      SNGL      Member Type..      Client
Age in Minutes..      22.0      Client Type..      MQSeries
Date Queued....      22MAR2002      OTMA Group...      IMFOTMA
Time Queued....      23:24:12      Server Name..      IMS71X
Send Seq Nbr....      1      IMS ID.....      X19H
Recovery Seq Nbr      0      MVS Name....      SYSD
Sense Code.....      N/A      TPIPE Name...      CSQ80072
Reason Code....      N/A      TPIPE Synch'd      Not Sync
Transaction Mode      NON-CONV      Commit Mode..      Send-then-Commit
Map Name.....      Sync Level...      Synchronized
Override LTERM..      Correlator ID 7F5E703800000000B0106550E4144C01
Security Level..      FULL      Context ID...
OTMA Arch Level..      1      Server Token.
```

Figure 155. OTMA Message Detail View (IOTMADTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Part 4. Managing IMS Operations

This section describes how you can use IPSM views to manage IMS operations. For general information about views, see the *Using MAINVIEW* manual.

Chapter 13. Managing Fast Path DEDB Areas	195
Accessing the Fast Path DEDB Area Views.	196
Fast Path DEDB Area Overview View.	197
Fast Path DEDB Area Detail View.	198
Fast Path DEDB Area Statistics View	199
Fast Path DEDB Area Status View.	200
Fast Path DEDB Area Object Easy Menu	201
 Chapter 14. Managing Databases	203
Accessing the Database Views.	204
Database Overview View	205
Database Detail View	207
Database Type Summary View.	208
Database Status Summary View.	209
Database Object Easy Menu.	210
 Chapter 15. Managing Application Programs	211
Accessing the Program Views	212
Program Object Easy Menu	213
Program Overview View	214
Program Type/Status Count View	215
Program Count by Type View	216
 Chapter 16. Cross-Referencing IMS Resources	217
Accessing the Cross-Reference Views	218
Assessing the Impact of Actions against IMS Resources	219
Taking a Database Offline.	219
Solving Failure to Take Database Offline	219
Taking a Program Offline	219
Solving Program Failure at Startup.	220
Cross-Reference All Records View	221
Program Cross-Reference Summary View.	222
Program-to-Database Cross-Reference View.	223
Program-to-Transaction Cross-Reference View.	225
Database Cross-Reference Summary View	227
Database-to-Program Cross-Reference View.	228
Database-to-Transaction Cross-Reference View	230
Transaction Cross-Reference Summary View	232
Transaction-to-Program Cross-Reference View.	233
Transaction-to-Database/Resource Availability Cross-Reference View	235
 Chapter 17. Managing IMS Database Activity	237
Accessing the IMS Database Activity Views	239
Analyzing a Data Sharing Group	239
Analyzing an Individual IMS	240
Database Activity Detail View – Data Sharing Group Level	241
Database Activity View – IMS System Level	243
Database Activity Detail View	245

Database Activity View – Logical (PCB) Level	248
Database I/O Activity View – Physical Database Level	250
Database I/O Activity View – Database/Volume Level	252
Database I/O Activity View – Volume Level	254
Database Activity Detail View – VSAM Buffer Pool Level	256
Database Activity Detail View – OSAM Buffer Pool Level	258
Database Activity View – VSAM Buffer Pool Level	260
Database Activity View – OSAM Buffer Pool Level	262
 Chapter 18. Managing Shared Message Queues	265
Accessing the CQS Information Views	266
Shared Message Queue Data Collection	266
Shared Queues Group IMS Structure View	267
Shared Message Queue Information View	268
Shared Message Queue Detail View	270
Messages by Structure View	271
Messages by Structure with Message Ages View	272
Messages by Queue Type View	273
Messages by Queue Type with Message Ages View	274
Input Messages by Queue Name View	275
Input Messages by Queue Name with Message Ages View	276
Output Messages by Queue Name View	277
Output Messages by Queue Name with Message Ages View	278
Messages by IMS Owner ID	279
Queue Menu	281

Chapter 13. Managing Fast Path DEDB Areas

This chapter discusses the sysplex-enabled Fast Path area views provided for users operating in the IPSM environment.

You can use IPSM's Fast Path area views to manage and control your IMS DEDB (data entry database) areas. These interactive views allow you to issue commands and see their results immediately.

With IPSM Fast Path Area views, you can immediately access pertinent information about each of your DEDB areas. This helps you better understand the impact of changing the status of a particular area. It also helps you manage the programs and transactions that are sensitive to that DEDB area.

IPSM's Fast Path Area views show you

- DEDB area structure and status
- Amount of space available
- EQE information
- Extensive CI statistics, broken down by category

After identifying the information you need, you can use line commands within the same view to control the Fast Path areas. (This capability requires a license for MAINVIEW AutoOPERATOR for IMS.)

The following IPSM Fast Path area views are provided:

View name	Description
IFPSUMR	Fast Path DEDB Area Overview
IFPDTLR	Fast Path DEDB Area Detail
IFPORGR	Fast Path DEDB Area Statistics
IFPSTAR	Fast Path DEDB Area Status
IFPMR	Fast Path Area Object Easy Menu

Accessing the Fast Path DEDB Area Views

You can display any of the Fast Path area views described in this chapter by entering the view name on the command line, or by entering **VIEWS** and then selecting the view from the list presented.

You can also hyperlink to the Fast Path area views from the **Dat abase/Area** option of the **IMS Easy Menu (EZIMS)** or the **Areas** section of the **IMS Resource Menu (EZIMSRS)**.

Fast Path DEDB Area Overview View

This section describes the Fast Path DEDB Area Overview view (IFPSUMR), which is shown in Figure 156 and Figure 157. With this view, you can manage and control your IMS DEDB (data entry database) areas.

The Fast Path DEDB Area Overview view shows area name, DBD name, IMS ID and jobname, area access and organization type, authorization state, access level, local and global DMB numbers, current status of the area, and whether the area is defined as nonrecoverable. The view also shows

- Number of EQEs (error queue elements) used
- Whether EQEs are read or write errors
- Size of VSAM control intervals
- Number of control intervals
- Number of control intervals available

Control interval (CI) statistics are broken down into root CIs, index CIs, sequential dependent CIs, root CIs per unit of work, and overflow CIs per unit of work.

You can control your Fast Path DEDB areas by using line commands within this view. (This control requires a license for MAINVIEW AutoOPERATOR for IMS.) To display the Fast Path DEDB Area Overview view, you can enter the view name (IFPSUMR) on any command line within IPSM.

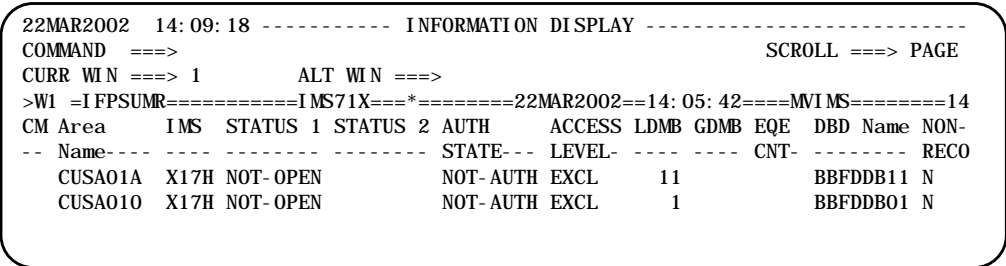


Figure 156. Fast Path DEDB Area Overview View (IFPSUMR)

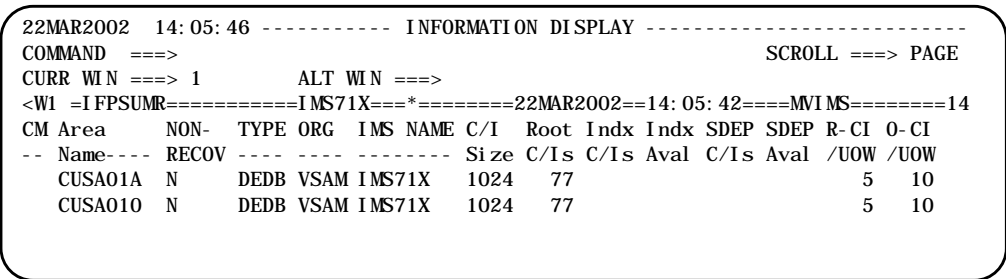


Figure 157. Fast Path DEDB Area Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Fast Path DEDB Area Detail View

This section describes the Fast Path DEDB Area Detail view (IFPDTLR), which is shown in Figure 158. With this view, you can focus and analyze a selected IMS DEDB (data entry database) area.

The Fast Path DEDB Area Detail view provides detailed statistics for a selected Fast Path DEDB area. The view shows area name, DBD name, IMS ID and jobname, area access and organization type, authorization state, access level, local and global DMB numbers, current status of the area, and whether the area is defined as nonrecoverable. The view also shows

- Number of EQEs (error queue elements) used
- Whether EQEs are read or write errors
- Size of VSAM control intervals
- Number of control intervals
- Number of control intervals available

Control interval (CI) statistics are broken down into root CIs, index CIs, sequential dependent CIs, root CIs per unit of work, and overflow CIs per unit of work.

To display the Fast Path DEDB Area Detail view, you can enter the view name (IFPDTLR) on any command line within IPSM. You can also hyperlink to this view from the Area Object Easy Menu (IFPMR) or the Database Object Easy Menu (IDBMR).

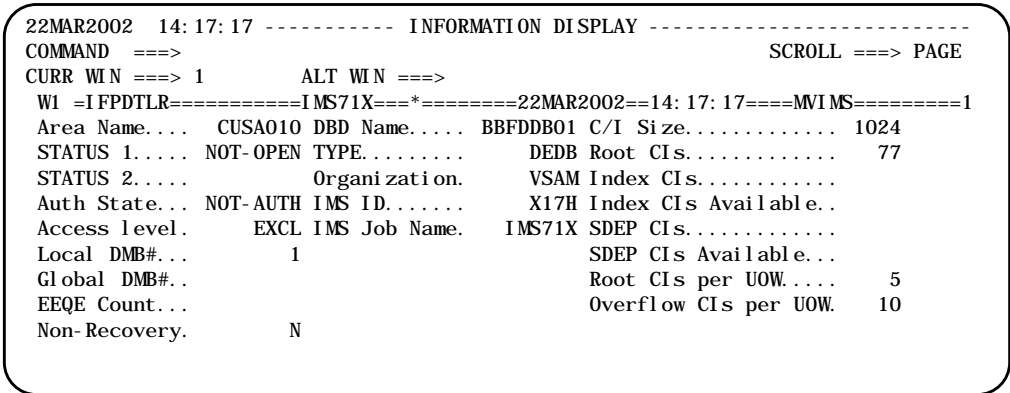


Figure 158. Fast Path DEDB Area Detail View (IFPDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Fast Path DEDB Area Statistics View

This section describes the Fast Path DEDB Area Statistics view (IFPORGR), which is shown in Figure 159 and Figure 160. You can access this view when you need to examine area structure and space availability.

The Fast Path DEDB Area Statistics view provides detailed information about the DEDB area structure and the amount of space available. It lists areas by name and identifies DBD name, IMS ID and jobname, and area status, type, and organization. It shows

- Size of VSAM control intervals (CIs)
- Number of VSAM root segment CIs
- Number of VSAM root segment CIs per unit of work
- Number of VSAM overflow CIs per unit of work
- Number of VSAM index CIs available
- Number of sequential dependent space CIs defined
- Number of sequential dependent space CIs available

You can control your Fast Path DEDB areas by using line commands within this view. (This control requires a license for MAINVIEW AutoOPERATOR for IMS.) To display the Fast Path DEDB Area Statistics view, you can enter the view name (IFPORGR) on any command line within IPSM. You can also hyperlink to this view from the Area Object Easy Menu (IFPMR).

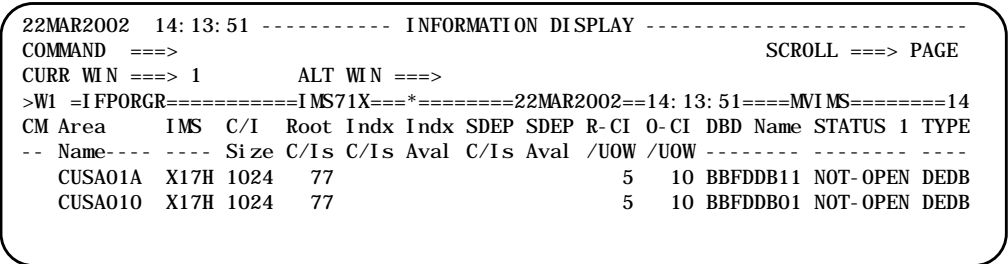


Figure 159. Fast Path DEDB Area Statistics View (IFPORGR)

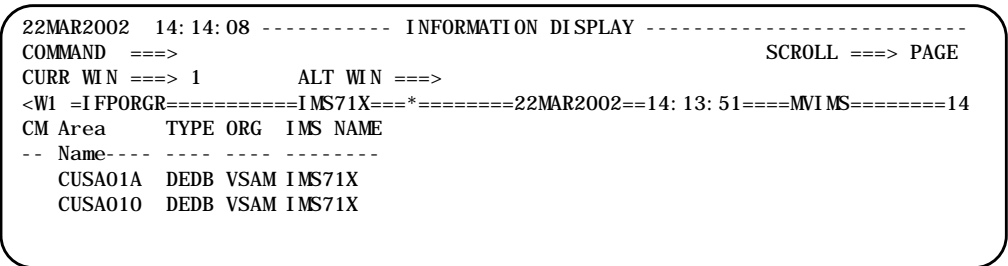


Figure 160. Fast Path DEDB Area Statistics View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Fast Path DEDB Area Status View

This section describes the Fast Path DEDB Area Status view (IFPSTAR). You can invoke this view when you need to examine or modify the status of Fast Path DEDB areas.

The Fast Path DEDB Area Status view summarizes status information for all DEDB areas in the IMS. Level 1 status indicates whether an area is open, not open, stopped, or locked. Level 2 status indicates error or failure conditions for the area.

This view lists all DEDB areas by Level 1 status. It provides a count of all areas having the same status. Additionally, it indicates area type, organization, access level, and authorization state, as well as IMS ID and jobname.

You can control your Fast Path DEDB areas by using line commands within this view. (This control requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Fast Path DEDB Area Status view, you can enter the view name (IFPSTAR) on any command line within IPSM. You can also hyperlink to this view from the Area Object Easy Menu (IFPMR).

The view is shown in Figure 161.

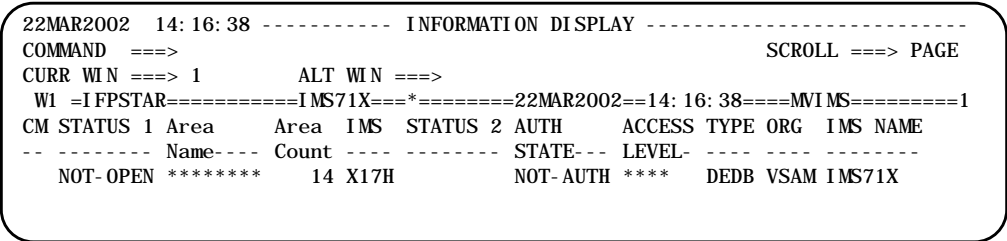


Figure 161. Fast Path DEDB Area Status View (IFPSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlink is provided in the IFPSTAR view.

Hyperlink from	To see
Status 1	Fast Path DEDB Area Overview view (IFPSUMR). IFPSUMR view, filtered to show all areas having the same status that you selected

Fast Path DEDB Area Object Easy Menu

This section describes the Fast Path DEDB Area Object Easy Menu (IFPMR), which is shown in Figure 162. This menu gives you quick access to Fast Path DEDB Area information.

You can use this menu to

- Hyperlink to Fast Path Area Detail, Status, or Statistics views
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter Fast Path Area information on
 - EQE count
 - read or write error
 - locked or stopped status

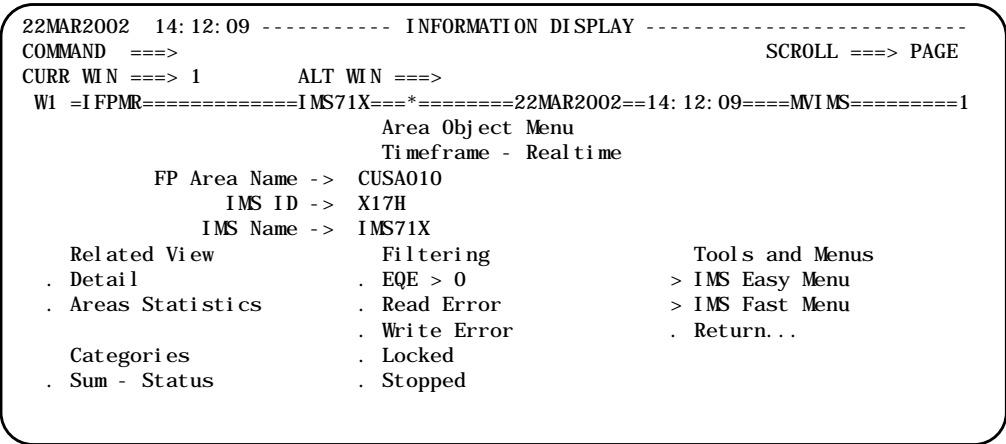


Figure 162. Fast Path DEDB Area Object Easy Menu (IFPMR)

To use the Fast Path DEDB Area Object Easy Menu, position your cursor on any option that interests you and press Enter.

To display the Fast Path DEDB Area Object Easy Menu, you can enter IFPMR on any command line within IPSM. You can also hyperlink to this menu from the first information column of IFPSUMR or IFPORGR view.

Chapter 14. Managing Databases

This chapter discusses the sysplex-enabled database views provided for users operating in the IPSM environment.

IPSM's database views help you manage and control IMS databases. These interactive views allow you to issue commands and see their results immediately.

With the views, you can

- See detailed database information
- Summarize information by database access type or status
- Filter on EEQE (extended error queue element) count, read or write error, locked or stopped status
- Hyperlink to associated area and program information

Statistics include access and organization type, authorization state, access level, local and global DMB numbers, current status, and whether the database is defined as nonrecoverable.

With the IPSM database views, you can immediately access pertinent information about each of your IMS databases, which can help you better manage the databases and the programs and transactions that are sensitive to them.

The following database views and Easy Menu are provided:

View name	Description
IDBSUMR	Database Overview
IDBDTLR	Database Detail
IDBTYPR	Database Type Summary
IDBSTAR	Database Status Summary
IDBMR	Database Object Easy Menu

Accessing the Database Views

You can display any of the database views described in this chapter by entering the view name on the command line, or by entering **VIEWS** and then selecting the view from a list.

You can also hyperlink to the database views from the Database Activity option on the IMS Easy Menu (EZIMS) or the Databases section on the IMS Resource Menu (EZIMSR).

Database Overview View

This section describes the Database Overview view (IDBSUMR), which is shown in Figure 163 and Figure 164. You can use this view to manage and control your IMS databases.

This tabular view displays a scrollable list of all databases in the IMS systems and provides database-level statistics for each of the databases.

The view shows the DBD name or the High Availability Large Database (HALDB) partition name, IMS ID and jobname, access and organization type, authorization state, access level, local and global DMB numbers, current status, and whether the database is defined as nonrecoverable.

After accessing the information you need, you can control the databases by using line commands within the view. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Database Overview view, you can enter IDBSUMR on any command line within IPSM.

The view is shown in Figure 163 and Figure 164.

22MAR2002 13: 48: 26 ----- INFORMATION DISPLAY -----														
COMMAND ==>										SCROLL ==> PAGE				
CURR WIN ==> 1										ALT WIN ==>				
>WI =IDBSUMR=====IMS71H====*=====22MAR2002==11: 54: 32====MVIMS=====94														
CM	DBD/PART	IMS	Database							Auth	Access	Loca	Glob	EEQE
--	Name	ID	Type	Org	Status 1	Status 2				State	Level	DMB#	DMB#	Cnt
	DBFSAMD2	H71H	MSDB		OPENED					NOT- AUTH	EXCL	24		
	DBFSAMD3	H71H	DEDB	VSAM	NOT- OPEN					N/A	UPDT	25		
	DBFSAMD4	H71H			NOT- OPEN					NOT- AUTH	UPDT	26		
	DB1	H71H			NOT- OPEN					NOT- AUTH	UPDT	27		
	DB1H	H71H	PHI DAM	OSAM	OPENED					N/A	UPDT	28	15	
	DB1H1	H71H	PART	OSAM	NOT- OPEN					UPDT- EXC	UPDT	93	15	
	DB1H2	H71H	PART	OSAM	NOT- OPEN					NOT- AUTH	UPDT	94	15	
	DB1I	H71H			NOT- OPEN					NOT- AUTH	UPDT	29		
	DI 21PART	H71H			NOT- OPEN					NOT- AUTH	UPDT	30		
	DSKDBD1 1	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	31		
	DSKDBD01	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	32		
	DSKDBD02	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	33		
	DSKDBDV1	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	34		
	DSKDBDV2	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	35		
	GBGDBD1 1	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	36		
	GBGDBD01	H71H			STOPPED	NOT- INIT				NOT- AUTH	UPDT	37		

Figure 163. Database Overview View (IDBSUMR)

```

22MAR2002 13:52:51 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDBSUMR=====IMS71H====*=====22MAR2002==11:54:32====MVIMS=====94
CM DBD/PART EEQE Non- IMS
-- Name      Cnt  Recov Name
  DBFSAMD2      N    IMS71H
  DBFSAMD3      N    IMS71H
  DBFSAMD4      N    IMS71H
  DB1           N    IMS71H
  DB1H          N    IMS71H
  DB1H1         N    IMS71H
  DB1H2         N    IMS71H
  DB1I          N    IMS71H
  DI21PART      N    IMS71H
  DSKDBDI1      N    IMS71H
  DSKDBD01      N    IMS71H
  DSKDBD02      N    IMS71H
  DSKDBDV1      N    IMS71H
  DSKDBDV2      N    IMS71H
  GBGDBDI1      N    IMS71H
  GBGDBD01      N    IMS71H

```

Figure 164. Database Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Database Detail View

The Database Detail view (IDBDTLR), shown in Figure 165, provides detailed statistics about a selected IMS database.

This view identifies database name, access and organization type, authorization state, access level, current status, local and global DMB numbers, and whether the database is defined as nonrecoverable. It also displays IMS ID and jobname, and the EEQE count against the database.

To display the Database Detail view, you can enter IDBDTLR on any command line within IPSM. You can also hyperlink to this view from the Database Object Easy Menu (IDBMR).

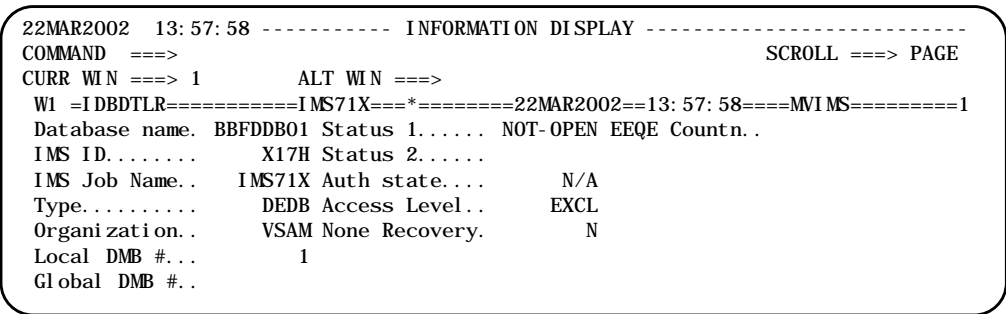


Figure 165. Database Detail View (IDBDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

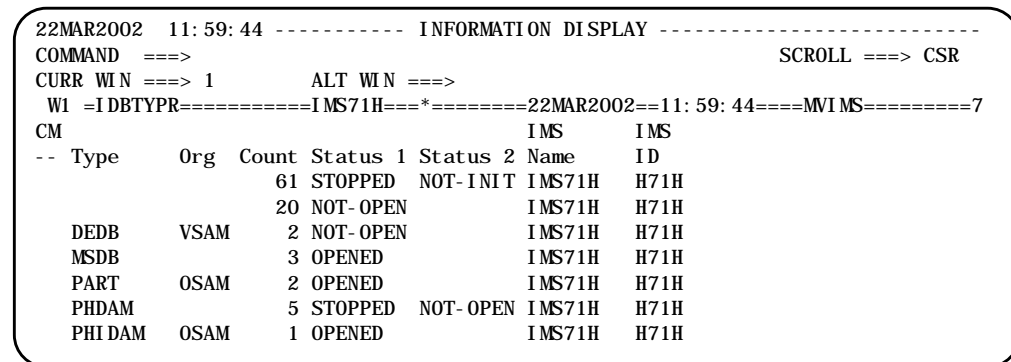
Database Type Summary View

This section describes the Database Type Summary view (IDBTYPR), which is shown in Figure 166. You can access this view when you want to examine database access type information in a tabular view. You can also control your IMS databases by using line commands within this view. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view summarizes databases by type of DBD access method and by IMS ID. It provides a count of the DBDs in each access method category. (When there is no value in the Type field, the associated database has been generated but does not have a member in ACBLIB, and it has a Status 2 of NOT-INIT.)

The view provides two levels of information about current status. The value in the Status 1 field indicates whether a database is open, not open, stopped, or locked. The value in the Status 2 field indicates error or failure conditions for the database. The view also shows DBD name, authorization state, access level, organization type, and associated IMS.

To display the Database Type Summary view, you can enter IDBTYPR on the command line.



The screenshot shows the IDBTYPR view with the following data:

Type	Org	Count	Status 1	Status 2	IMS Name	IMS ID
		61	STOPPED	NOT-INIT	IMS71H	H71H
		20	NOT-OPEN		IMS71H	H71H
DEDB	VSAM	2	NOT-OPEN		IMS71H	H71H
MSDB		3	OPENED		IMS71H	H71H
PART	OSAM	2	OPENED		IMS71H	H71H
PHDAM		5	STOPPED	NOT-OPEN	IMS71H	H71H
PHIDAM	OSAM	1	OPENED		IMS71H	H71H

Figure 166. Database Type Summary View (IDBTYPR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBTYPR view.

Hyperlink from	To see
Count	IDBSUMR view, which shows all the databases that have the type of access method you selected

Database Status Summary View

This section describes the Database Status Summary view (IDBSTAR), which is shown in Figure 167. You can access this view when you need to examine database status information in a tabular view. You can also control your IMS databases by using line commands within this view. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

The Database Status Summary view summarizes all databases in the IMS systems by status and by IMS ID. It also provides a count of the databases in each status category. Summarization is by Status 1. (Status 1 indicates whether a database is open, not open, stopped, or locked. Status 2 indicates error or failure conditions for the database.)

Additional database information is provided: DBD name, access method, organization type, authorization state, associated IMS ID and jobname, EEQE count, and whether the database is defined as nonrecoverable.

To display the Database Status Summary view, you can enter IDBSTAR on the command line.

The view is shown in Figure 167.

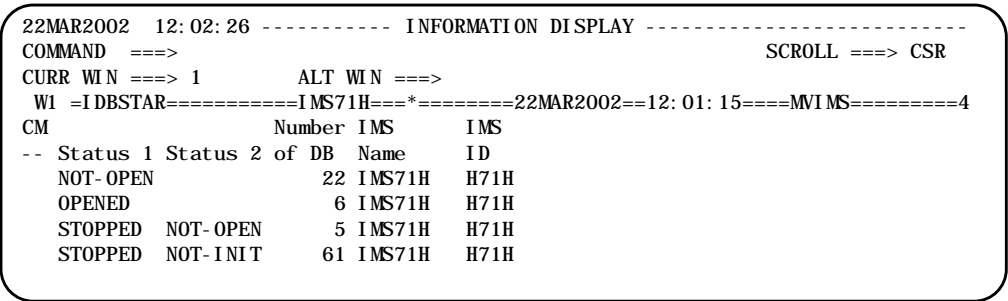


Figure 167. Database Status Summary View (IDBSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBSTAR view.

Hyperlink from	To see
Number of DB	IDBSUMR view, which shows all the databases with the status you selected

Database Object Easy Menu

This section describes the Database Object Easy Menu (IDBMR), which is shown in Figure 168. This menu gives you quick access to information about a specific database in your IMS.

You can use this menu to

- Hyperlink to Database Detail, Status, or Type Summary views
- Hyperlink to related area, program, or transaction information
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter database information on
 - EEQE count (extended error queue element)
 - read or write error
 - locked or stopped status

The Database Object Easy Menu is shown in Figure 168.

```
22MAR2002 13:55:04 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1      ALT WIN ===>
W1 =IDBMR=====IMS71X====*=====22MAR2002==13:54:59====MVI MS=====1
                                Database Object Menu
                                Timeframe - Realtime
      Database Name -> BBFDDDB01
      IMS ID -> X17H
      IMS Name -> IMS71X
Related Resources      Filtering      Tools and Menus
. Detail              . EEQE > 0      > IMS Easy Menu
. Associated areas    . Read Error    > IMS Fast Menu
. Associated Program  . Write Error  . Return...
. Associated Trans    . Locked
                    . Stopped
Categories
. Type
. Status
```

Figure 168. Database Object Easy Menu (IDBMR)

To use the Database Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Database Object Easy Menu, you can enter IDBMR on any command line within IPSM. Or you can hyperlink to this menu from the first information column of IDBSUMR or IDBTYPYR view.

Chapter 15. Managing Application Programs

This chapter describes the sysplex-enabled program views provided for users operating in the IPSM environment.

You can use IPSM's program views to see

- How application programs are running in your IMS sysplex environment
- What the impact will be if you change the status of a particular program

With the IPSM program views, you can find out the transactions and databases associated with any program—and you can see their status. This helps you understand what the impact will be if you change the status of a particular program.

The program views show you

- All programs (with counts) of any given type or status
- Transactions affected if you change a program's status
- Regions currently running a program

After identifying the information you need, you can use line commands within the same view to control the programs defined for your IMS. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

The following program views and Easy Menu are provided:

View name	Description
IPGMR	Program Easy Menu
IPGSUMR	Program Overview
IPGSUMC	Program Count by Type
IPGSUMCT	Program Type/Status Count

Accessing the Program Views

You can display any of the program views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list presented.

You can also hyperlink to the program views from the Programs option in the IMS Easy Menu (EZIMS) or the IMS Resource Menu (EZIMSRS).

Program Object Easy Menu

This section describes the Program Object Easy Menu (IPGMR), which is shown in Figure 169. This menu is a good starting point for examining how application programs are running in the IMS sysplex environment.

By hyperlinking from this IPSM menu, you can go straight to the statistics you need to better manage the programs running in your IMS sysplex environment. The Program Object Easy Menu allows you to select options that take you to views showing

- Program information filtered by type or by started/not started status
- Program summarization by type or by type and status
- Transactions affected if you change a program's status
- Regions currently running a specific program

You can also hyperlink to the IMS Easy and Fast Menus (EZIMS and EZIFAST).

```
22MAR2002 13: 43: 12 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
WI =IPGMR=====IMS71X==*=====22MAR2002==13: 43: 06====MVIS=====1
                                Program Object Menu
                                Timeframe - Real time
                                Program Name -> APPC02
                                IMS ID -> X17H
                                MVS Name -> SYSC
                                Related Resources
                                . Transactions by...
                                . Regions running...
                                . Associated databases
                                . Associated Trans
                                Selection/Filtering
                                . TP Only
                                . BMP Only
                                . FP N Only
                                . FP U Only
                                . Started Programs
                                . Not started Programs
                                Summarization
                                . By Type and Status
                                . By Type
                                System Wide Analysis
                                . Program/Tran
                                . Region/Program
                                Tools and Menus
                                > IMS Easy Menu
                                > IMS Fast Menu
                                . Return...
```

Figure 169. Program Object Easy Menu

To use the Program Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Program Object Easy Menu, enter IPGMR on the command line, or enter VIEWS and then select IPGMR from the list presented. You can also hyperlink to this menu from the first information column in IPGSUMR view.

Program Overview View

The Program Overview view (IPGSUMR), shown in Figure 170, lists all IMS application programs by name. It identifies their type, status, and scheduling type. It also provides the related IMS ID and OS/390 name.

You can control the programs defined for your IMS by using line commands within this view. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display this high-level view, you can enter the view name (IPGSUMR) on any command line within IPSM. You can also hyperlink to this view from the Programs option of the IMS Easy Menu (EZIMS) or the IMS Resource Menu (EZIMSRS).

The view is shown in Figure 170.

22MAR2002 13: 41: 21 ----- INFORMATION DISPLAY -----

COMMAND ==>>SCROLL ==> PAGE

CURR WIN ==> 1ALT WIN ==>

W1 =IPGSUMR=====IMS71X====*=====22MAR2002==13: 40: 50====MVIMS=====200

CMD	Program	Type	Status	IMS	MVS	Sched
---	Name			Id	Name	Type
	APPC02	TP	Started	X17H	SYSC	Serial
	APPC03	TP	Started	X17H	SYSC	Serial
	APPC04	TP	Started	X17H	SYSC	Serial
	APPC05	TP	Started	X17H	SYSC	Serial
	APPC06	TP	Started	X17H	SYSC	Serial
	BBFPGM01	FP N	Started	X17H	SYSC	Serial
	BBFPGM02	FP N	Started	X17H	SYSC	Serial

Figure 170. Program Overview View (IPGSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Program Type/Status Count View

This section describes the Program Type/Status Count view (IPGSUMC), which is shown in Figure 171. You can access this view when you want to see programs of a specific type and status.

This summarized view lists all IMS application programs by type and status. It also identifies the count of all programs having both the same type and status, the associated IMS ID and OS/390 name, and the program scheduling type.

You can control the programs defined for your IMS by using line commands within this view. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Program Type/Status Count view, you can enter the view name (IPGSUMC) on any command line within IPSM.

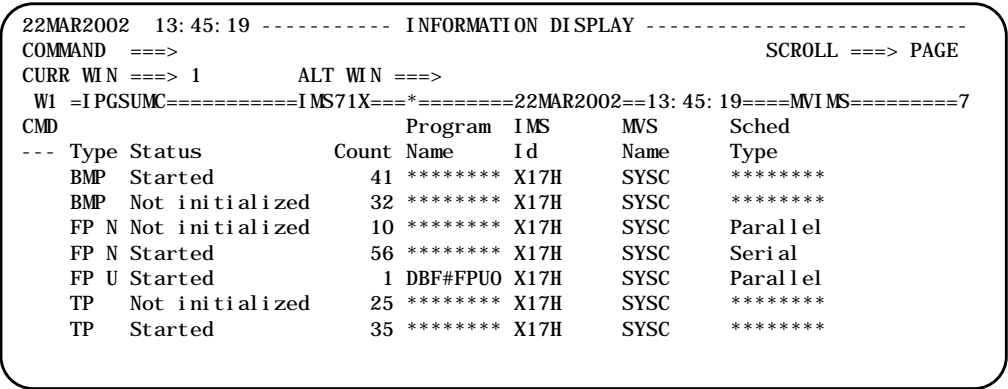


Figure 171. Program Type/Status Count View (IPGSUMC)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPGSUMC view.

Hyperlink from	To see
Type	IPGSUMR view, filtered on all programs of the same type and status

Program Count by Type View

This section describes the Program Count by Type view (IPGSUMCT), which is shown in Figure 172. This view provides a quick way to see all programs of a specific type.

The Program Count by Type view displays all IMS application programs by type. It also identifies the count of all programs in each type. It shows program name, IMS ID and OS/390 name, and program scheduling type.

IPGSUMCT, along with the other program views, allows you to use line commands to control the programs defined for your IMS. (This requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display this summarized view, enter the view name (IPGSUMCT) on any command line within IPSM.

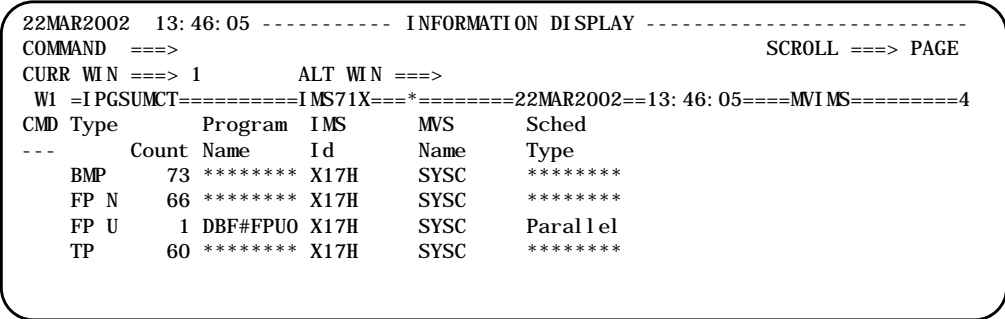


Figure 172. Program Count by Type View (IPGSUMCT)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

Chapter 16. Cross-Referencing IMS Resources

This chapter discusses the sysplex-enabled cross-reference views provided for users operating in the IPSM environment.

System programmers, DBAs, and application programmers can pick their point of entry into these views. Using their preferred point of entry (database, transaction, or program), they can conveniently cross-reference resources to

- Investigate issues like data unavailability
- Assess beforehand the impact of actions against IMS resources

IPSM's cross-reference views allow you to discover the association between transactions, programs, and databases. For example, if a database is unavailable, you can easily discover the cause—the problem may be with the database, a program that uses the database, or a transaction that the associated program processes.

With cross-reference views, you can manage transactions and programs as they relate to a database, and you can conveniently hyperlink to manage the database itself. Before stopping a program or taking a database offline, you can use these views to see

- All transactions and programs affected by a specific database
- All databases used by a transaction or program
- All transactions that a program processes
- All messages outstanding against each transaction

The following cross-reference views are provided:

View name	Description
IXRSUMR	Cross-Reference All Records
IXPSUMR	Program Cross-Reference Summary
IXPDSUMR	Program-to-Database Cross-Reference
IXPTSUMR	Program-to-Transaction Cross-Reference
IXDSUMR	Database Cross-Reference Summary
IXDPSUMR	Database-to-Program Cross-Reference
IXDTSUMR	Database-to-Transaction Cross-Reference
IXTSUMR	Transaction Cross-Reference Summary
IXTPSUMR	Transaction-to-Program Cross-Reference
IXTDSUMR	Transaction-to-Database/Resource Availability Cross-Reference

Accessing the Cross-Reference Views

You can display any of the cross-reference views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list presented.

The cross-reference views allow you to pick your preferred point of entry for cross-reference information. If you prefer to view information from a database standpoint, choose a view whose third letter in the name begins with *D* (for database). If you prefer a transaction viewpoint, pick a view whose third letter is *T* (for transaction). If you prefer seeing information from a program standpoint, choose a view where the third letter in the name is *P* (for program).

The easiest way to access the cross-reference views is by hyperlinking from one of the Easy or Fast Menus to the IMS Cross-Reference Menu (EZIMSX), shown in Figure 173. From the IMS Cross-Reference Menu, simply select the option showing the mode of cross-referencing you want to use.

```
22MAR2002 12:01:09 ----- INFORMATION DISPLAY (MAX)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMSX===== (ALL=====IMS71D==) 22MAR2002==12:01:09====MVIMS=====1
                                     IMS Cross Reference Menu
                                     IMS ID ---> IMS71D
Transaction to
. Database and Program | Place cursor on | . Tran and Program
. Database with Status | menu item and  | . Tran with Status
. Program with Status  | press ENTER   | . Program with Status
+-----+
Transaction Selection   Database Selection
> Database and Program  Program to
> Database with Status  . Database and Tran
> Program with Status   . Database with Status
                        . Tran with Status
                        Program Selection
                        > Database and Tran
                        > Database with Status
                        > Tran with Status
                        Tools and Menus
                        > Utilities
                        > IMS Easy Menu
                        > MVIMS Main Menu
                        > IMS SSI Menu
                        . Return...
```

Figure 173. IMS Cross-Reference Menu (EZIMSX)

Assessing the Impact of Actions against IMS Resources

IPSM's cross-reference views are an exceptional tool for managing IMS resources. You can assess beforehand the impact of actions you might take against programs, databases, or transactions.

Taking a Database Offline

If you have a database in error, you can assess the impact of taking it offline before you take any action. You can identify both the programs and the transactions that use the database. Then you can issue line commands to modify their state (if appropriate) before you take action against the database in error.

For example, you can begin at IXDPSUMR view. It shows you information about all programs using the database. You can then hyperlink from the Program Name field to IPGSUMR view, where you can modify the state of associated programs. After returning to IXDPSUMR view, you can hyperlink from the Database field to IDBSUMR view, where you can go ahead and take the database offline.

You can also begin at IXDTSUMR view. It shows you transaction information related to the database. You can then hyperlink from the Tran Code field to ITRSUMR view, where you can issue line commands against the associated transactions. After returning to IXDTSUMR view, you can hyperlink from the Database field to IDBSUMR view, where you can go ahead and issue line commands to take the database offline.

Note: Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.

Solving Failure to Take Database Offline

When you set out to take a database offline, the most common reason for failure is that you have a BMP currently running against that database (DFS565I message), which causes the DBR command to fail. With IPSM's cross-reference views, you can identify any BMP programs that are sensitive to that database and you can take actions against them.

You can start at IXDPSUMR view. Given the database, you can see all programs that are sensitive to that database. You can also see the program type. If you select a program in the Program field, you can hyperlink to IPGSUMR view, where you can change the state of the BMP program. After returning to IXDPSUMR view, you can hyperlink from the Database field to IDBSUMR view, where you can go ahead and issue a line command to take the database offline.

Note: Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.

Taking a Program Offline

When you need to take an application offline (perhaps for an online change), you can easily identify all transactions that are affected by that program—and you can modify their state first. You can also ensure that the message queue does not contain messages for any of the transactions that are processed by the application you are going to modify.

You can verify the status of all transactions that are processed by a given program, and you can take action against the individual transaction and/or the program.

For example, you can start at IXPTSUMR view. Here you can see all transactions the program processes—and their status. By hyperlinking from the Tran Code field, you access ITRSUMR view, where you can issue line commands against the transaction or hyperlink further to see all messages outstanding against it. Based on what you see, you may decide to allow a message to complete, or you may decide to stop the transaction and allow the backlog of messages to drain. After returning to IXPTSUMR view, you can hyperlink from the Program Name field to IPGSUMR view, where you can go ahead and issue line commands to take the program offline.

Note: Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.

Solving Program Failure at Startup

When a program fails at startup due to unavailable resources (abend U3303, for example), you have an easy way to identify the unavailable resource and take action against it.

You can begin at IXPDSUMR view. It shows you whether all needed databases are available and if not, the reason why. You can then hyperlink from the Database field to IDBSUMR view, where you can issue line commands to modify the state of the database in question. After returning to IXPDSUMR, you can hyperlink from the Program Name field to IPGSUMR view, where you can go ahead and start the program.

Note: Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.

Cross-Reference All Records View

This section describes the Cross-Reference All Records view (IXRSUMR), which is shown in Figure 174. You can use this view when you want to see a complete cross-reference of all programs, databases, and transactions in the IMS.

The Cross-Reference All Records view is unsummarized. It contains a line entry for each database/program/transaction association. Each line entry is a separate record. The records are unsorted.

To display the Cross-Reference All Records view, enter IXRSUMR on any command line within IPSM.

```

22MAR2002 13: 30: 40 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IXRSUMR=====X19H=====22MAR2002==13: 30: 39====MVI MS=====200
CMD Program   Tran      Database IMS      Execute MVS      IMS
--- Name      Code      Id      IMS Id Name      Name
APPC02  APPC02      unavail X19H      X19H      SYSC      IMS71X
DBFSAMP2 no tran DBFSAMD4 X19H      X19H      SYSC      IMS71X
DBFSAMP3 FPSAMP1 DBFSAMD1 X19H      X19H      SYSC      IMS71X
DBFSAMP3 FPSAMP1 DBFSAMD2 X19H      X19H      SYSC      IMS71X
DBFSAMP3 FPSAMP1 DBFSAMD3 X19H      X19H      SYSC      IMS71X
DBFSAMP3 FPSAMP1 DBFSAMD4 X19H      X19H      SYSC      IMS71X
DBFSAMP4 FPSAMP2 DBFSAMD1 X19H      X19H      SYSC      IMS71X
DBFSAMP4 FPSAMP2 DBFSAMD2 X19H      X19H      SYSC      IMS71X
DBFSAMP4 FPSAMP2 DBFSAMD3 X19H      X19H      SYSC      IMS71X
DBFSAMP4 FPSAMP2 DBFSAMD4 X19H      X19H      SYSC      IMS71X
DFHSAM15 no tran DI21PART X19H      X19H      SYSC      IMS71X
DFHSAM24 no tran DI21PART X19H      X19H      SYSC      IMS71X

```

Figure 174. Cross-Reference All Records View (IXRSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Because all records are displayed, this view contains no summarization or hyperlinks.

Program Cross-Reference Summary View

This section describes the Program Cross-Reference Summary view (IXPSUMR). You can use this view to cross-reference programs and their associated transactions and databases.

The Program Cross-Reference Summary view lists all transactions and databases associated with all programs. With this view, you can

- Assess the impact of any actions you might take against a program
- Hyperlink to a view where you can perform actions against the program

To display the Program Cross-Reference Summary view, enter IXPSUMR on any command line within IPSM.

The view is shown in Figure 175.

```

22MAR2002 14: 25: 09 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1
ALT WIN ==>
W1 =IXPSUMR=====IMS71X=====22MAR2002==14: 25: 09====MVI MS=====200
CMD Program Tran Database IMS Execute MVS IMS
--- Name Code Id IMS Id Name Name
APPC02 APPC02 unavail X17H X17H SYSC IMS71X
APPC03 APPC03 unavail X17H X17H SYSC IMS71X
APPC04 APPC04 unavail X17H X17H SYSC IMS71X
APPC05 APPC05 unavail X17H X17H SYSC IMS71X
APPC06 APPC06 unavail X17H X17H SYSC IMS71X
BBFPGM01 BBFTRN01 unavail X17H X17H SYSC IMS71X
BBFPGM02 no tran unavail X17H X17H SYSC IMS71X
BBFPGM03 BBFTRN03 unavail X17H X17H SYSC IMS71X
BBFPGM04 no tran unavail X17H X17H SYSC IMS71X
BBFPGM05 BBFTRN05 unavail X17H X17H SYSC IMS71X
BBFPGM06 no tran unavail X17H X17H SYSC IMS71X
BBFPGM07 BBFTRN07 unavail X17H X17H SYSC IMS71X
BBFPGM08 no tran unavail X17H X17H SYSC IMS71X
BBFPGM09 BBFTRN09 unavail X17H X17H SYSC IMS71X
BBFPGM10 no tran unavail X17H X17H SYSC IMS71X
BBFPGM11 BBFTRN11 unavail X17H X17H SYSC IMS71X

```

Figure 175. Program Cross-Reference Summary View (IXPSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Program-to-Database Cross-Reference View

This section describes the Program-to-Database Cross-Reference view (IXPDSUMR), which is shown in Figure 176 and Figure 177. It provides useful program-to-database cross-reference information.

This view lists all programs, the databases they are sensitive to, and the status of those databases. You can use this summary view to

- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

If you want to check on resource availability for a particular program, simply hyperlink on the Database field. A filtered view of IDBSUMR appears, showing the status of all databases the program is sensitive to.

This view lists all programs, with their status, OS/390 name, and IMS ID. It also lists every database that each program needs to run. It provides the following information about each database: Level 1 and Level 2 status, authorization state, access method, organization type, access limit, EEQE count, local and global DMB numbers, and whether the database has been defined as nonrecoverable.

To display the Program-to-Database Cross-Reference view, enter IXPDSUMR on any command line within IPSM.

```
22MAR2002 14: 30: 31 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IXPDSUMR=====X19H=====22MAR2002==14: 30: 31====MVI MS=====115
CMD Program IMS Program Database TYPE ORG STATUS 1 STATUS 2 AUTH
--- Name Id Status ----- State---
```

DBFSAMP1	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN	N/A
DBFSAMP2	X19H	Started	DBFSAMD4			NOT- OPEN	NOT- AUTH
DBFSAMP3	X19H	Started	DBFSAMD4			NOT- OPEN	NOT- AUTH
DBFSAMP3	X19H	Started	DBFSAMD2	MSDB		OPENED	NOT- AUTH
DBFSAMP3	X19H	Started	DBFSAMD1	MSDB		OPENED	NOT- AUTH
DBFSAMP3	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN	N/A
DBFSAMP4	X19H	Started	DBFSAMD1	MSDB		OPENED	NOT- AUTH
DBFSAMP4	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN	N/A
DBFSAMP4	X19H	Started	DBFSAMD2	MSDB		OPENED	NOT- AUTH
DBFSAMP4	X19H	Started	DBFSAMD4			NOT- OPEN	NOT- AUTH
DBFSAMP5	X19H	Started	DBFSAMD4			NOT- OPEN	NOT- AUTH
DBFSAMP6	X19H	Started	DBFSAMD3	DEDB	VSAM	NOT- OPEN	N/A
DFHSAM04	X19H	Started	DI 21PART			NOT- OPEN	NOT- AUTH
DFHSAM05	X19H	Started	DI 21PART			NOT- OPEN	NOT- AUTH
DFHSAM14	X19H	Started	DI 21PART			NOT- OPEN	NOT- AUTH
DFHSAM15	X19H	Started	DI 21PART			NOT- OPEN	NOT- AUTH

Figure 176. Program-to-Database Cross-Reference View (IXPDSUMR)

```

22MAR2002 14:31:31 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IXPDSUMR=====X19H=====*=====22MAR2002==14:30:31====MVIMS=====115
CMD Program AUTH ACCESS LDMB GDMB EEQE Non- MVS
--- Name State--- LEVEL- ---- Cnt- Recov Name
DBFSAMP1 N/A UPDT 122 N SYSC
DBFSAMP2 NOT-AUTH UPDT 123 N SYSC
DBFSAMP3 NOT-AUTH UPDT 123 N SYSC
DBFSAMP3 NOT-AUTH EXCL 121 N SYSC
DBFSAMP3 NOT-AUTH EXCL 120 N SYSC
DBFSAMP3 N/A UPDT 122 N SYSC
DBFSAMP4 NOT-AUTH EXCL 120 N SYSC
DBFSAMP4 N/A UPDT 122 N SYSC
DBFSAMP4 NOT-AUTH EXCL 121 N SYSC
DBFSAMP4 NOT-AUTH UPDT 123 N SYSC
DBFSAMP5 NOT-AUTH UPDT 123 N SYSC
DBFSAMP6 N/A UPDT 122 N SYSC
DFHSAM04 NOT-AUTH UPDT 124 N SYSC
DFHSAM05 NOT-AUTH UPDT 124 N SYSC
DFHSAM14 NOT-AUTH UPDT 124 N SYSC
DFHSAM15 NOT-AUTH UPDT 124 N SYSC

```

Figure 177. Program-to-Database Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXPDSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can see the status of all databases the program is sensitive to and issue line commands against databases
Program Name	IPGSUMR view, where you can see more program information and modify programs

Program-to-Transaction Cross-Reference View

This section describes the Program-to-Transaction Cross-Reference view (IXPTSUMR), which is shown in Figure 178 and Figure 179. You can refer to this view for useful program-to-transaction cross-reference information.

This view lists all programs and the transactions they are running. It also provides information about each transaction. With this summary view, you can ensure that definitions are consistent across a sysplex. You can also

- Assess beforehand the impact of any actions you might take against a program
- Hyperlink to issue line commands to modify a program dynamically
- Hyperlink to issue line commands against a transaction

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

For example, if you need to take action against a program, you can hyperlink on the Tran Code field first. This takes you to ITRSUMR view, where you can view all transactions the program processes. If you hyperlink from there, you can see all messages outstanding against the transaction. Based on what you see, you may decide to allow a message to complete, or you may decide to stop the transaction and allow the backlog of messages to drain.

This view identifies program name and status, transaction, IMS ID, and the ID of the IMS where the transaction is executing. It also shows transaction status, current class, current and normal scheduling priority, process and parallel process limit, maximum number of regions where the transaction can run, number of messages currently queued, bytes queued, and OS/390 and IMS name.

To display the Program-to-Transaction Cross-Reference view, enter IXPTSUMR on any command line within IPSM.

```

22MAR2002 14: 27: 48 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IXPTSUMR=====IMS71X=====22MAR2002==14: 27: 47====MVIMS=====149
CMD Program IMS Program Tran Exec Status Cls Curr Norm Parall
--- Name Id Status Code IMSId Prty Prty Limit
APPC02 X17H Started APPC02 X17H 1 7 7 65535
APPC03 X17H Started APPC03 X17H 1 7 7 65535
APPC04 X17H Started APPC04 X17H 1 7 7 65535
APPC05 X17H Started APPC05 X17H 1 7 7 65535
APPC06 X17H Started APPC06 X17H 1 7 7 65535
BBFPGM01 X17H Started BBFTRN01 X17H 0 0 0 0
BBFPGM03 X17H Started BBFTRN03 X17H 0 0 0 0
BBFPGM05 X17H Started BBFTRN05 X17H 0 0 0 0
BBFPGM07 X17H Started BBFTRN07 X17H 0 0 0 0
BBFPGM09 X17H Started BBFTRN09 X17H 0 0 0 0
BBFPGM11 X17H Started BBFTRN11 X17H 0 0 0 0
BBFPGM13 X17H Started BBFTRN13 X17H 0 0 0 0
BBFPGM15 X17H Started BBFTRN15 X17H 0 0 0 0
BBFPGM17 X17H Started BBFTRN17 X17H 0 0 0 0
BBFPGM19 X17H Started BBFTRN19 X17H 0 0 0 0
BBFPGM21 X17H Started BBFTRN21 X17H 0 0 0 0

```

Figure 178. Program-to-Transaction Cross-Reference View (IXPTSUMR)

```

22MAR2002 14:28:52 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IXPTSUMR=====IMS71X====*=====22MAR2002==14:27:47====MVIMS=====149
CMD Program  Parall Proc  Max Num  Bytes  Rgns  IMS      MVS
--- Name      Limit Limit  Rgn Msgs  Queued  Schd  Name      Name
  APPC02      65535 65535   0          Bytes  Rgns  IMS71X  SYSC
  APPC03      65535 65535   0          Bytes  Rgns  IMS71X  SYSC
  APPC04      65535 65535   0          Bytes  Rgns  IMS71X  SYSC
  APPC05      65535 65535   0          Bytes  Rgns  IMS71X  SYSC
  APPC06      65535 65535   0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM01      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM03      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM05      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM07      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM09      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM11      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM13      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM15      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM17      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM19      0      0  0          Bytes  Rgns  IMS71X  SYSC
  BBFPGM21      0      0  0          Bytes  Rgns  IMS71X  SYSC

```

Figure 179. Program-to-Transaction Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXPTSUMR view.

Hyperlink from	To see
Program Name	IPGSUMR view, where you can modify the selected program dynamically
Tran Code	ITRSUMR view, where you can issue line commands against the selected transaction

Database Cross-Reference Summary View

This section describes the Database Cross-Reference Summary view (IXDSUMR), which is shown in Figure 180. You can use this view to cross-reference databases with the programs and transactions that use them or are associated with them.

The Database Cross-Reference Summary view lists all databases and all programs and transactions that are sensitive to each database. It also shows the IMS ID, the ID of the IMS where the transaction is executing, OS/390 name, and IMS name.

With this view, you can

- Assess the impact of any actions you might take against a database
- Hyperlink to a view where you can perform an action against a database

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Database Cross-Reference Summary view, enter IXDSUMR on any command line within IPSM.

```

22MAR2002 14: 20: 35 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE

CURR WIN ==> 1 ALT WIN ==>

W1 =IXDSUMR=====X19H=====*=====22MAR2002==14: 20: 35====MVI MS=====25

CMD Database Program Tran IMS Execute MVS IMS
--- Name Code Id IMS Id Name Name
unavail ***** ***** X19H X19H SYSC IMS71X
BE2PCUST PTESTO** TTESTO** X19H X19H SYSC IMS71X
BE3ORDER PTESTO** TTESTO** X19H X19H SYSC IMS71X
BE3ORDRX PTESTO** TTESTO** X19H X19H SYSC IMS71X
BE3PARTS PTESTO** TTESTO** X19H X19H SYSC IMS71X
BE3PSID1 PTESTO** TTESTO** X19H X19H SYSC IMS71X
CUSTHDAM ***** ***** X19H X19H SYSC IMS71X
CUSTHIDM ***** ***** X19H X19H SYSC IMS71X
CUSTHISM ***** ***** X19H X19H SYSC IMS71X
CUSTINDX ***** ***** X19H X19H SYSC IMS71X
DBFSAMD1 DBFSAMP* FPSAMP** X19H X19H SYSC IMS71X
DBFSAMD2 DBFSAMP* FPSAMP** X19H X19H SYSC IMS71X
DBFSAMD3 DBFSAMP* ***** X19H X19H SYSC IMS71X
DBFSAMD4 DBFSAMP* ***** X19H X19H SYSC IMS71X
DI21PART DF***** ***** X19H X19H SYSC IMS71X
IN01A01 PTESTO2 TTESTO2 X19H X19H SYSC IMS71X

```

Figure 180. Database Cross-Reference Summary View (IXDSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Database-to-Program Cross-Reference View

This section describes the Database-to-Program Cross-Reference view (IXDPSUMR), which is shown in Figure 181 and Figure 182. You can use this view to see useful database-to-program cross-reference information.

This view lists all databases, the programs that use them, and the transactions that are associated with them. You can use this summary view to

- Assess beforehand the impact of any actions you might take against a database
- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view is especially useful for assessing the impact of taking a database offline. It provides extensive information about each program associated with a database: status, type, scheduling type, associated transaction, IMS ID and jobname, and OS/390 name.

To display the Database-to-Program Cross-Reference view, enter IXDPSUMR on any command line within IPSM.

```
22MAR2002 14:22:48 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =IXDPSUMR=====X19H=====*=====22MAR2002==14:22:42====MVIMS=====115
CMD Database IMS DB      DB      Program Type Status      Sched      MVS
---      Id      Status 1 Status 2 Name      Type      Name
BE2PCUST X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE2PCUST X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBM1 TP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB3 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB1 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB2 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB4 BMP Started Parallel SYSC
```

Figure 181. Database-to-Program Cross-Reference View (IXDPSUMR)

```

22MAR2002 14: 23: 59 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<WI =IXDPSUMR=====X19H=====*=====22MAR2002==14: 22: 42====MVIMS=====115
CMD Database MVS  IMS
---      Name Name
      BE2PCUST SYSC IMS71X
      BE2PCUST SYSC IMS71X
      BE3ORDER SYSC IMS71X
      BE3ORDER SYSC IMS71X
      BE3ORDRX SYSC IMS71X
      BE3ORDRX SYSC IMS71X
      BE3ORDRX SYSC IMS71X
      BE3PARTS SYSC IMS71X
      BE3PARTS SYSC IMS71X
      BE3PSID1 SYSC IMS71X
      BE3PSID1 SYSC IMS71X
      CUSTHDAM SYSC IMS71X
      CUSTHDAM SYSC IMS71X
      CUSTHDAM SYSC IMS71X
      CUSTHDAM SYSC IMS71X
      CUSTHDAM SYSC IMS71X
      CUSTHDAM SYSC IMS71X

```

Figure 182. Database-to-Program Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXDPSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can issue line commands against the selected database
Program Name	IPGSUMR view, where you can modify the selected program

Database-to-Transaction Cross-Reference View

This section describes the Database-to-Transaction Cross-Reference view (IXDTSUMR), which is shown in Figure 183 and Figure 184. You can use this view to see useful database-to-transaction cross-reference information.

This view lists all databases and the transactions associated with them. You can use this summary view to

- Assess beforehand the impact of any actions you might take against a database
- Hyperlink to ICLSUMR view, where you can see processing class information for the transaction
- Hyperlink to IRGNSUMR view, where you can see region information for the transaction

This view is especially useful for assessing the impact of taking a database offline. You can easily see the transactions associated with the database and all messages outstanding against the transactions.

Based on what you see, you may decide to allow a message to complete, or you may decide to stop the transaction and allow the backlog of messages to drain, before issuing the desired action against the database.

IXDTSUMR view identifies the database, its status 1 and status 2 states, and its associated transactions. It provides the following transaction information: status, class, number of messages, bytes queued, current and normal priority, maximum number of regions where it can run, and number of regions scheduling it.

To display the Database-to-Transaction Cross-Reference view, enter IXDTSUMR on any command line within IPSM.

```
22MAR2002 14: 24: 40 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =IXDTSUMR=====X19H=====*=====22MAR2002==14: 24: 39====MVIMS=====84
CMD Database IMS  DB      DB      Tran      Exec      Tran      Cls Bytes Norm
---      Id      Status 1 Status 2 Code      IMSId      Status      Queue Prty
    BE2PCUST X19H NOT- OPEN      TTEST01 X19H      5      0
    BE2PCUST X19H NOT- OPEN      TTEST02 X19H      5      0
    BE3ORDER X19H NOT- OPEN      TTEST01 X19H      5      0
    BE3ORDER X19H NOT- OPEN      TTEST02 X19H      5      0
    BE3ORDRX X19H NOT- OPEN      TTEST02 X19H      5      0
    BE3ORDRX X19H NOT- OPEN      TTEST01 X19H      5      0
    BE3PARTS X19H NOT- OPEN      TTEST01 X19H      5      0
    BE3PARTS X19H NOT- OPEN      TTEST02 X19H      5      0
    BE3PSID1 X19H NOT- OPEN      TTEST02 X19H      5      0
    BE3PSID1 X19H NOT- OPEN      TTEST01 X19H      5      0
    CUSTHDAM X19H NOT- OPEN      GBGTRNM1 X19H      1      1
    CUSTHDAM X19H NOT- OPEN      THDAM NQ X19H      1      5
    CUSTHDAM X19H NOT- OPEN      GBGTRNB1 X19H      4      0
    CUSTHDAM X19H NOT- OPEN      GBGTRNB2 X19H      4      0
    CUSTHDAM X19H NOT- OPEN      GBGTRNB3 X19H      4      0
    CUSTHDAM X19H NOT- OPEN      THDAMUPD X19H      2      5
```

Figure 183. Database-to-Transaction Cross-Reference View (IXDTSUMR)

```

22MAR2002 14: 25: 59 ----- INFORMATION DISPLAY -----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IXDTSUMR=====X19H=====*=====22MAR2002==14: 24: 39====MVIMS=====84
CMD Database Norm Parallel Proc Max Num Curr Rgns MVS IMS
--- Prty Li mi t Li mi t Rgn Msgs Prty Schd Name Name
BE2PCUST 0 65535 65535 0 0 SYSC IMS71X
BE2PCUST 0 65535 65535 0 0 SYSC IMS71X
BE3ORDER 0 65535 65535 0 0 SYSC IMS71X
BE3ORDER 0 65535 65535 0 0 SYSC IMS71X
BE3ORDRX 0 65535 65535 0 0 SYSC IMS71X
BE3ORDRX 0 65535 65535 0 0 SYSC IMS71X
BE3PARTS 0 65535 65535 0 0 SYSC IMS71X
BE3PARTS 0 65535 65535 0 0 SYSC IMS71X
BE3PSID1 0 65535 65535 0 0 SYSC IMS71X
BE3PSID1 0 65535 65535 0 0 SYSC IMS71X
CUSTHDAM 1 65535 65535 0 1 SYSC IMS71X
CUSTHDAM 5 1 5 0 5 SYSC IMS71X
CUSTHDAM 0 65535 65535 0 0 SYSC IMS71X
CUSTHDAM 0 65535 65535 0 0 SYSC IMS71X
CUSTHDAM 0 65535 65535 0 0 SYSC IMS71X
CUSTHDAM 5 65535 65535 0 5 SYSC IMS71X

```

Figure 184. Database-to-Transaction Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXDTSUMR view.

Hyperlink from	To see
Rgns Schd	IRGNSUMR view, where you can see region information for the selected transaction
Cls	ICLSUMR view, where you can see processing class information for the selected transaction

Transaction Cross-Reference Summary View

This section describes the Transaction Cross-Reference Summary view (IXTSUMR), which is shown in Figure 185. You can use this summary view to cross-reference transactions with their associated programs and databases.

This view lists all transactions, their associated programs and databases, ID of the IMS the transaction is defined on, ID of the IMS the transaction is executing on, OS/390 name, and IMS name.

With this view, you can

- Assess the impact of any actions you might take against a transaction
- Hyperlink to issue line commands against a transaction
(This requires a license for MAINVIEW AutoOPERATOR for IMS.)
- Troubleshoot problems with a transaction

For example, if a transaction is not running, you can use this view to find out why. By hyperlinking from the Database and Program Name fields, you can see if a database or program it needs is unavailable.

To display the Transaction Cross-Reference Summary view, enter IXTSUMR on any command line within IPSM.

```
22MAR2002 13: 35: 30 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
W1 =IXTSUMR=====X19H=====22MAR2002==13: 35: 30====MVI MS=====110
CMD Tran Program Database IMS Execute MVS IMS
--- Code Name Id IMS Id Name Name
no tran ***** X19H X19H SYSC IMS71X
ADDINV DFSSAM04 DI21PART X19H X19H SYSC IMS71X
ADDPART DFSSAM04 DI21PART X19H X19H SYSC IMS71X
APPC06 APPC06 unavail X19H X19H SYSC IMS71X
CLOSE DFSSAM05 DI21PART X19H X19H SYSC IMS71X
DISBURSE DFSSAM06 DI21PART X19H X19H SYSC IMS71X
DLETINV DFSSAM04 DI21PART X19H X19H SYSC IMS71X
DLETPART DFSSAM04 DI21PART X19H X19H SYSC IMS71X
DSN8CS DSN8IC0 unavail X19H X19H SYSC IMS71X
DSN8PP DSN8IQ0 unavail X19H X19H SYSC IMS71X
DSN8PS DSN8IP0 unavail X19H X19H SYSC IMS71X
DSN8PT DSN8IH0 unavail X19H X19H SYSC IMS71X
DSPALLI DFSSAM07 DI21PART X19H X19H SYSC IMS71X
DSPINV DFSSAM03 DI21PART X19H X19H SYSC IMS71X
FPSAMP1 DBFSAMP3 DBFSAMD* X19H X19H SYSC IMS71X
FPSAMP2 DBFSAMP4 DBFSAMD* X19H X19H SYSC IMS71X
GBGTRNB1 GBGPSBB1 CUST**** X19H X19H SYSC IMS71X
```

Figure 185. Transaction Cross-Reference Summary View (IXTSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Transaction-to-Program Cross-Reference View

This section describes the Transaction-to-Program Cross-Reference view (IXTPSUMR), which is shown in Figure 186 and Figure 187.

This view lists all transactions with their associated programs, databases, and other information. You can use this summary view to

- See all the IMS systems where your transactions are defined and where they are defined to execute (different for remote locations)
- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a transaction
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view identifies transaction, IMS ID, executing IMS ID, OS/390 name, IMS jobname, and program name, status, type, and scheduling type.

To display the Transaction-to-Program Cross-Reference view, enter IXTPSUMR on any command line within IPSM.

```
22MAR2002 14: 34: 16 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>WI =IXTPSUMR=====IMS71X====*=====22MAR2002==14: 34: 16====MVIMS=====149
CMD Tran  IMS  Tran  Program  Exec  Type  Program  Sched  MVS
--- Code   Id    Status   Name    IMSId  Status Type      Type   Name
ADDINV   X17H          DFSSAM04 X17H  TP    Started Serial SYSC
ADDPART  X17H          DFSSAM04 X17H  TP    Started Serial SYSC
APPC02   X17H          APPC02   X17H  TP    Started Serial SYSC
APPC03   X17H          APPC03   X17H  TP    Started Serial SYSC
APPC04   X17H          APPC04   X17H  TP    Started Serial SYSC
APPC05   X17H          APPC05   X17H  TP    Started Serial SYSC
APPC06   X17H          APPC06   X17H  TP    Started Serial SYSC
BBFTRN01 X17H          BBFPGM01 X17H  FP N Started Serial SYSC
BBFTRN03 X17H          BBFPGM03 X17H  FP N Started Serial SYSC
BBFTRN05 X17H          BBFPGM05 X17H  FP N Started Serial SYSC
BBFTRN07 X17H          BBFPGM07 X17H  FP N Started Serial SYSC
BBFTRN09 X17H          BBFPGM09 X17H  FP N Started Serial SYSC
BBFTRN11 X17H          BBFPGM11 X17H  FP N Started Serial SYSC
BBFTRN13 X17H          BBFPGM13 X17H  FP N Started Serial SYSC
BBFTRN15 X17H          BBFPGM15 X17H  FP N Started Serial SYSC
BBFTRN17 X17H          BBFPGM17 X17H  FP N Started Serial SYSC
```

Figure 186. Transaction-to-Program Cross-Reference View (IXTPSUMR)

```

22MAR2002 14: 35: 18 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IXTPSUMR=====IMS71X====*=====22MAR2002==14: 34: 16====MVIMS=====149
CMD Tran      MVS  IMS
--- Code      Name  Name
  ADDINV      SYSC IMS71X
  ADDBPART    SYSC IMS71X
  APPC02      SYSC IMS71X
  APPC03      SYSC IMS71X
  APPC04      SYSC IMS71X
  APPC05      SYSC IMS71X
  APPC06      SYSC IMS71X
  BBFTRN01    SYSC IMS71X
  BBFTRN03    SYSC IMS71X
  BBFTRN05    SYSC IMS71X
  BBFTRN07    SYSC IMS71X
  BBFTRN09    SYSC IMS71X
  BBFTRN11    SYSC IMS71X
  BBFTRN13    SYSC IMS71X
  BBFTRN15    SYSC IMS71X
  BBFTRN17    SYSC IMS71X

```

Figure 187. Transaction-to-Program Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXTPSUMR view.

Hyperlink from	To see
Tran Code	ITRSUMR view, where you can issue line commands against the selected transaction
Program Name	IPGSUMR view, where you can issue line commands to modify the selected program

Transaction-to-Database/Resource Availability Cross-Reference View

This section describes the Transaction-to-Database/Resource Availability Cross-Reference view (IXTDSUMR), which is shown in Figure 188 and Figure 189. This view provides useful cross-reference information that can help you pinpoint problems with resource availability.

With this view, you can

- See if database resources that a transaction needs to run are available
- Discover why resources are not available
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a transaction

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view lists all transactions, their associated databases, database status, and other information. It provides the following database information: current status, authorization state, access method and organization type, access level, EEQE count, local and global DMB numbers, and whether the database has been defined as nonrecoverable.

The view also provides the following transaction information: transaction name and status, ID of the IMS where the transaction is defined, ID of the IMS where the transaction is defined to execute, OS/390 name, and IMS jobname.

To display the Transaction-to-Database/Resource Availability Cross-Reference view, enter IXTDSUMR on any command line within IPSM.

22MAR2002 14: 28: 07 ----- INFORMATION DISPLAY -----										
COMMAND ==>				SCROLL ==> PAGE						
CURR WIN ==> 1				ALT WIN ==>						
>W1 =IXTDSUMR=====X19H=====*=====22MAR2002==14: 28: 06====MVIMS=====84										
CMD	Tran	IMS	Tran	Exec	Database	TYPE	ORG	STATUS 1	STATUS 2	AUTH
---	Code	Id	Status	IMSId						STATE--
	ADDINV	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	ADDPART	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	CLOSE	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	DISBURSE	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	DLETINV	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	DLETPART	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	DSPALLI	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	DSPINV	X19H		X19H	DI 21PART			NOT- OPEN		NOT- AUT
	FPSAMP1	X19H		X19H	DBFSAMD4			NOT- OPEN		NOT- AUT
	FPSAMP1	X19H		X19H	DBFSAMD2	MSDB		OPENED		NOT- AUT
	FPSAMP1	X19H		X19H	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	FPSAMP1	X19H		X19H	DBFSAMD1	MSDB		OPENED		NOT- AUT
	FPSAMP2	X19H		X19H	DBFSAMD2	MSDB		OPENED		NOT- AUT
	FPSAMP2	X19H		X19H	DBFSAMD4			NOT- OPEN		NOT- AUT
	FPSAMP2	X19H		X19H	DBFSAMD3	DEDB	VSAM	NOT- OPEN		N/A
	FPSAMP2	X19H		X19H	DBFSAMD1	MSDB		OPENED		NOT- AUT

Figure 188. Transaction-to-Database Cross-Reference View (IXTDSUMR)

```

22MAR2002 14: 29: 17 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IXTDSUMR=====X19H=====*=====22MAR2002==14: 28: 06====MVIMS=====84
CMD Tran      AUTH      ACCESS LDMB GDMB EEQE NON-  MVS  IMS
--- Code      STATE--- LEVEL-  ----- CNT-  RECOV Name Name
  ADDINV      NOT- AUTH  UPDT      124          N    SYSC IMS71X
  ADDPART      NOT- AUTH  UPDT      124          N    SYSC IMS71X
  CLOSE        NOT- AUTH  UPDT      124          N    SYSC IMS71X
  DISBURSE     NOT- AUTH  UPDT      124          N    SYSC IMS71X
  DLETINV      NOT- AUTH  UPDT      124          N    SYSC IMS71X
  DLETPART     NOT- AUTH  UPDT      124          N    SYSC IMS71X
  DSPALLI      NOT- AUTH  UPDT      124          N    SYSC IMS71X
  DSPINV       NOT- AUTH  UPDT      124          N    SYSC IMS71X
  FPSAMP1      NOT- AUTH  UPDT      123          N    SYSC IMS71X
  FPSAMP1      NOT- AUTH  EXCL      121          N    SYSC IMS71X
  FPSAMP1      N/A       UPDT      122          N    SYSC IMS71X
  FPSAMP1      NOT- AUTH  EXCL      120          N    SYSC IMS71X
  FPSAMP2      NOT- AUTH  EXCL      121          N    SYSC IMS71X
  FPSAMP2      NOT- AUTH  UPDT      123          N    SYSC IMS71X
  FPSAMP2      N/A       UPDT      122          N    SYSC IMS71X
  FPSAMP2      NOT- AUTH  EXCL      120          N    SYSC IMS71X

```

Figure 189. Transaction-to-Database Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the IXTDSUMR view.

Hyperlink from	To see
Tran Code	ITRSUMR view, where you can issue line commands against the selected transaction
Database	IDBSUMR view, where you can issue line commands to modify the selected database.

Chapter 17. Managing IMS Database Activity

This chapter describes the IMS database activity views provided for users operating in the IPSM environment.

The IPSM IMS database activity views provide a powerful tool for database analysis. They make problem recognition in an N-way data sharing environment much easier. Database administrators can use the views to recognize and solve problems stemming from

- Badly organized databases
- I/O contention
- Buffer pool sizes and assignments
- Buffer cross-invalidation

While MVIMS views like STRAC and REGND identify I/O at a transaction level, the database activity views provide a database perspective. They are a system-wide resource, showing

- All DL/I calls against a database (except for DEDB, MSDB, and GSAM databases)
- All I/O activity for a database (except for DEDB, MSDB, and GSAM databases and I/O due to background write)

These views allow you to analyze I/O information as it relates to logical and physical databases. Realtime, interval, and history statistics are provided. Counts, rate, and elapsed time are reported for both DL/I calls and database I/O events.

Information is summarized in different ways, so you can solve database problems occurring at different levels. Summarization is by

- Data sharing group
- System
- Logical PCB (program control block)
- Physical database
- Volume
- Buffer pool

With the database activity views, you can examine DL/I call and I/O event information at the level of the problem that is occurring. Simply pick the view that corresponds to the type of information you need and the level at which you need to see it.

The database activity views are listed in Table 34 and Table 35 on page 238. This chapter describes and illustrates only realtime views. (The views described in this chapter are shaded in the tables). Where corresponding views from the two tables are nearly identical, only the Table 35 view is shown.

For information grouped by data sharing group, use the views listed in Table 34.

Table 34. Views that Group Information by Data Sharing Group

View name	Description	Refer to
IDAGDTLR	Database Activity Detail, Data Sharing Group Level (realtime)	Page 241
IDAGDTL	Database Activity Detail, Data Sharing Group Level (interval)	
IDAGSUMR	Database Activity, Data Sharing Group Level (realtime)	
IDAGSUM	Database Activity, Data Sharing Group Level (interval)	
IDALGSMR	Database Activity, Logical (PCB) Level (realtime)	Page 248
IDALGSM	Database Activity, Logical (PCB) Level (interval)	
IDAPGSMR	Database I/O Activity, Physical Database Level (realtime)	Page 250
IDAPGSM	Database I/O Activity, Physical Database Level (interval)	
IDAXGSMR	Database I/O Activity, Database/Volume Level (realtime)	Page 252
IDAXGSM	Database I/O Activity, Database/Volume Level (interval)	
IDAVGSMR	Database I/O Activity, Volume Level (realtime)	Page 254
IDAVGSM	Database I/O Activity, Volume Level (interval)	

For information grouped by IMS name, use the views listed in Table 35.

Table 35. Views that Group Information by IMS

View name	Description	Refer to
IDASSUMR	Database Activity, IMS System Level (realtime)	Page 243
IDASSUM	Database Activity, IMS System Level (interval)	
IDASDTLR	Database Activity Detail (realtime)	Page 245
IDASDTL	Database Activity Detail (interval)	
IDALSUMR	Database Activity, Logical (PCB) Level (realtime)	Page 248
IDALSUM	Database Activity, Logical (PCB) Level (interval)	
IDAPSUMR	Database I/O Activity, Physical Database Level (realtime)	Page 250
IDAPSUM	Database I/O Activity, Physical Database Level (interval)	
IDAXSUMR	Database I/O Activity, Database/Volume Level (realtime)	Page 252
IDAXSUM	Database I/O Activity, Database/Volume Level (interval)	
IDAVSUMR	Database I/O Activity, Volume Level (realtime)	Page 254
IDAVSUM	Database I/O Activity, Volume Level (interval)	
IDABVDTR	Database Activity Detail, VSAM Buffer Pool Level (realtime)	Page 256
IDABVDTL	Database Activity Detail, VSAM Buffer Pool Level (interval)	

Table 35. Views that Group Information by IMS (continued)

View name	Description	Refer to
IDABODTR	Database Activity, Detail OSAM Buffer Pool Level (realtime)	Page 258
IDABODTL	Database Activity, Detail OSAM Buffer Pool Level (interval)	
IDABVSMR	Database Activity, VSAM Buffer Pool Level (realtime)	Page 260
IDABVSM	Database Activity, VSAM Buffer Pool Level (interval)	
IDABOSMR	Database Activity, OSAM Buffer Pool Level (realtime)	Page 262
IDABOSM	Database Activity, OSAM Buffer Pool Level (interval)	

Accessing the IMS Database Activity Views

The easiest way to access the IMS database activity views is by hyperlinking from one of the Database Activity options in an IPSM Easy Menu (EZIMS, EZISSI, or EZIFAST).

You can also display any of the views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list presented.

Analyzing a Data Sharing Group

To analyze a data sharing group, begin with IDAGDTLR (for realtime) or IDAGDTL (for interval). You can easily hyperlink to these views from the EZISSI Easy Menu.

To look at multiple data sharing groups, begin with IDAGSUMR (for realtime) or IDAGSUM (for interval).

From IDAGDTLR or IDAGDTL view, hyperlinking from highlighted fields is an easy way to go to other views showing related information.

Note: To get accurate information for a data sharing group, be sure to set your context to include all IMS systems defined in that share group. To set context, use the CONtext command within one of the Easy Menus, such as EZIMS or EZISSI, before you access a specific view.

If you do not know which context name to use, you can try using CONtext ALL. That command will display information from every accessible IMS system, which may include IMS systems that are not part of your data sharing group.

Analyzing an Individual IMS

To analyze one or more specific IMS systems, choose the IMS system with the CONtext command. Then begin with IDASSUMR (for realtime) or IDASSUM (for interval). You can easily hyperlink to those views from the Database Activity option in the EZIMS, EZISSI, or EZIFAST Easy Menu.

From IDASSUMR or IDASSUM view, hyperlink from any row in the IMS Name column to go to the Database Activity Detail view, IDASDTLR (for realtime) or IDASDTL (for interval). This view provides detailed information for the selected IMS system, including information that is not available in other views:

- Number of I/Os per DL/I call
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

Another way to analyze an individual IMS is to bypass IDASDTLR or IDASDTL view. You can hyperlink from various highlighted fields within IDASSUMR or IDASSUM view to go directly to the related information shown in other database activity views.

Database Activity Detail View – Data Sharing Group Level

This section describes the Database Activity Detail View – Data Sharing Group Level (IDAGDTLR), which is shown in Figure 190. The view provides information about database I/O activity and DL/I calls for a data sharing group.

You can use this view to analyze I/O information as it relates to logical and physical databases. This view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation.

This view shows DL/I call and I/O event totals, rates, and average times. It does not report DEDB, MSDB, or GSAM database activity or activity caused by background write. Statistics are summarized by data sharing group. To display the Database Activity Detail View – Data Sharing Group Level, enter IDAGDTLR on any command line within IPSM.

Note: Only IMS systems in your context are included in the count in the Num IMS field. If any of the IMSs in your data sharing group are not included in your context, the data you receive will be incomplete.

```

22MAR2002 12:11:22 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDAGDTLR=====IMSPROD==*=====22MAR2002==16:09:16====MWIMS=====1
Data Sharing Group ..... NONE Sample seconds..... 5.1
IMS Name(s)..... IMS71H
Number of IMS Systems... 1

--FULL FUNCTION DB I/O--
Total I/O Seconds 3.06
Average I/O Time... 0.003
Read I/O AVG... 0.003
Write I/O AVG... 0.000
Read I/O Rate... 177.51
Write I/O Rate... 0.00
Sync Write I/O Rate... 0.00
Read OSAM XI I/O Rate... 0.00
Databases with I/O... 1
Volumes with I/O... 2

--- DATABASE CALLS ---
DL/I Call Total Seconds.. 3.184
DL/I Call AVG Time..... 0.0038
DL/I Call Rate..... 164.89
DL/I Call Percent I/O... 96.04
DL/I Call AVG NBR I/O... 1.077
DB GU Rate..... 13.81
DB GHU Rate..... 95.86
DB GN Rate..... 13.81
DB GNP Rate..... 13.81
DB GHN Rate..... 13.81
DB GHNP Rate..... 13.81
DB ISRT Rate..... 0.00
DB REPL Rate..... 0.00
DB DLET Rate..... 0.00
DB OTHER Rate..... 0.00
Databases with calls.... 1

--- BUFFER POOLS ---
Worst VSAM Pool Hit Ratio 62.6
Worst OSAM Pool Hit Ratio 30.2

```

Figure 190. Database Activity Detail View – Data Sharing Group Level (IDAGDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAGDTLR view.

Hyperlink from	To see
Number of IMS Systems	IDASSUMR view, which shows statistics for each IMS in the data sharing group
Databases with I/O	IDAPGSMR view, which shows I/O statistics at the physical database level for the data sharing group
Volumes with I/O	IDAVGSMR view, which shows statistics for all DASD volumes incurring I/O in the data sharing group
Databases with calls	IDALGSMR view, where you can see the DL/I call and I/O statistics at the logical database level for the data sharing group
Worst VSAM Pool Hit Ratio	IDABVSMR view, where you can see activity for the VSAM buffer pools used by the data sharing group
Worst OSAM Pool Hit Ratio	IDABOSMR view, where you can see activity for the OSAM buffer pools used by the data sharing group

Database Activity View – IMS System Level

This section describes the Database Activity View – IMS System Level (IDASSUMR), which is shown in Figure 191, Figure 192, Figure 193, and Figure 194. This view provides information about database I/O activity and DL/I calls for one or more IMS systems.

You can use this view to analyze I/O information as it relates to the logical databases. The view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation.

This view shows DL/I call and I/O event totals, rates, and average times for one or more IMS systems. It does not report DEDB, MSDB, and GSAM database activity or activity caused by background write. Statistics are summarized by IMS system.

To display the Database Activity View – IMS System Level, enter IDASSUMR on any command line within IPSM.

```
22MAR2002 12:12:42 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDASSUMR=====IMS71H====*=====22MAR2002==12:12:42====MWIMS=====1
IMS      Data      Call Call      Call I/O  I/O      Read Read  Write Write OSAM XI
Name     ShrGrp    Rate AVG      %I/O Rate AVG    Rate AVG    Rate AVG    ReadRate
IMS71H   IMSNWAY  46.1 0.00129 90.7 48.8 0.001 48.8 0.001 0.0 0.001 0
```

Figure 191. Database Activity View – IMS System Level (IDASSUMR)

```
22MAR2002 12:12:42 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDASSUMR=====IMS71H====*=====22MAR2002==12:12:42====MWIMS=====1
IMS      OSAM XI    VSAMPool OSAMPool BufferSteal VSAMBckgrd OSAMPurge GU
Name     ReadRate   HitRatio HitRatio WriteRate   WriteRate WriteRate Rate
IMS71H           0.0    63.99    36.93         0.00         0.00    0.00    3.8
```

Figure 192. Database Activity View – IMS System Level, Scrolled Right

```
22MAR2002 12:14:34 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDASSUMR=====IMS71H====*=====22MAR2002==12:12:42====MWIMS=====1
IMS      GU  GHU  GHN  GHNP  GN  GNP  ISRT  DLET  REPL  Other IMS
Name     Rate Rate Rate Rate Rate Rate Rate Rate Rate Rate ID
IMS71H   3.8 26.7 3.8 3.8 3.8 3.8 0.2 0.2 0.2 0.0 H71H
```

Figure 193. Database Activity View – IMS System Level, Scrolled Right Again

```

22MAR2002 12:11:22 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDASSUMR=====IMS71H==*=====08SEP2000==14:38:45====MVIMS=====1
IMS      IMS      MVS
Name     ID       Name
IMS71H   H71H     SJSC

```

Figure 194. Database Activity View – IMS System Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASSUMR view.

Hyperlink from	To see
IMS Name	IDASDTLR view, which provides detailed information for the selected IMS system
Data ShrGrp	IDAGSUMR view, which provides the statistics for the data sharing group that the selected IMS belongs to
Call Rate	IDALSUMR view, which shows the DL/I call and I/O statistics at the logical database level for each IMS
I/O Rate	IDAPSUMR view, where you can see the I/O statistics at the physical database level for each IMS
VSAMPoolHitRatio	IDABVSMR view, which provides database I/O activity information for each IMS system, summarized at the VSAM buffer pool level
OSAMPoolHitRatio	IDABOSMR view, which provides database I/O activity information for each IMS system, summarized at the OSAM buffer pool level

Database Activity Detail View

This section describes the Database Activity Detail View (IDASDTLR), which is shown in Figure 195 on page 246. This view provides detailed information about database I/O activity and DL/I calls for a selected IMS system.

This view can help you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation. The view shows DL/I call and I/O event totals, rates, and average times. It also provides information that is not included in other database activity views:

- Number of I/Os per DL/I call
- Number of seconds (or minutes, if interval) during which the data has been collected
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

IDASDTLR view does not report DEDB, MSDB, and GSAM database activity or activity caused by background write. Statistics are summarized for the selected IMS system.

You can display the Database Activity Detail View in any of the following ways:

- Enter IDASDTLR on any command line within IPSM.
- Hyperlink from the Database Activity option in the EZIMS, EZISSI, or EZIFAST Easy Menu.
- Hyperlink from any row in the IMS Name column in IDASSUMR view.
- Hyperlink from the IMS Name field of IDAGSUMR view, and then hyperlink from any row in the IMS Name column of IDASSUMR view.

```

22MAR2002 15:06:14 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IDASDTLR=====IMS71H=====22MAR2002==15:06:14====MVIMS=====1
IMS Name.....          IMS71H   Sample seconds.....          8.6
IMS ID.....            H71H
Data Sharing Group.....  IMSNWAY

--FULL FUNCTION DB I/O--
Total      I/O Seconds    15.70
Average    I/O Time...   0.001
Read       I/O AVG...     0.001
Write      I/O AVG...     0.000
Read       I/O Rate...    25.14
Write      I/O Rate...     0.00
Sync Write I/O Rate...    1.00
Read OSAM XI I/O Rate...  0.00
Databases  with I/O...    1
Volumes    with I/O...    2

--- DATABASE CALLS ---
DL/I Call Total Seconds.          17.564
DL/I Call AVG Time.....          0.0014
DL/I Call Rate.....              24.20
DL/I Call Percent I/O...          89.38
DL/I Call AVG NBR I/O...          1.039
DB GU Rate.....                  1.93
DB GHU Rate.....                 13.92
DB GN Rate.....                  1.93
DB GNP Rate.....                 1.93
DB GHN Rate.....                 1.93
DB GHNP Rate.....                1.93
DB ISRT Rate.....                0.19
DB REPL Rate.....                0.19
DB DLET Rate.....                0.19
DB OTHER Rate.....               0.03
Databases with calls...          1

--- BUFFER POOLS ---
VSAM Bufr Pool Hit Ratio          65.1
OSAM Bufr Pool Hit Ratio          41.7

```

Figure 195. Database Activity Detail View (IDASDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASDTLR view.

Hyperlink from	To see
Data Sharing Group	IDAGSUMR view, where you can see the statistics for the data sharing group that the IMS belongs to
Databases with I/O	IDAPSUMR view, where you can see these I/O statistics at the physical database level for each IMS
Volumes with I/O	IDAVSUMR view, where you can see all the DASD volumes that have I/O occurring against them within the current time frame
Databases with calls	IDALSUMR view, where you can see these DL/I call and I/O statistics at the logical database level for each IMS
VSAM Bufr Pool Hit Ratio	IDABVSMR view, which provides database I/O activity information for each IMS system summarized at the VSAM buffer pool level
OSAM Bufr Pool Hit Ratio	IDABOSMR view, which provides database I/O activity information for each IMS system summarized at the OSAM buffer pool level

Tuning Tip: If a database has excessive I/O, a buffer pool may be too small. Use the VSAM Bufr Pool Hit Ratio and the OSAM Bufr Pool Hit Ratio hyperlinks to see information that can help you determine whether you need to increase the size of the buffer pool.

Database Activity View – Logical (PCB) Level

This section describes the Database Activity View – Logical (PCB) Level (IDALSUMR or IDALGSMR). This view provides statistics about the activity of logical databases.

You can use this view to analyze database I/O and DL/I call information as it relates to the logical databases. It can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, or buffer cross-invalidation.

This view shows totals, rates, and averages for DL/I calls and I/O events. Statistics are for each open database associated with a PCB (program control block) against which DL/I calls have been made.

The database named in a PCB can be either a physical database or a logical database. Rows in this view that report on logical databases may include I/O statistics for one or more physical databases. This view does not report DEDB, MSDB, or GSAM database activity or activity caused by background write.

To display the Database Activity View – Logical (PCB) Level, enter IDALSUMR on any command line within IPSM.

IDALSUMR view is shown in Figure 196, Figure 197, and Figure 198.

```
22MAR2002 12:19:09 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDALSUMR=====IMS71H==*=====22MAR2002==12:19:09====MVIMS=====1
PCB      Physical Call Call      Call Call      I/O  I/O  Read Read  Write Write
DBNAME   DBNAME  Rate AVG    %I/O Avg I/Os Rate AVG    Rate AVG    Rate AVG
DB1H     DB1H    125. 0.00064 20.3    0.10 13.7 0.001 11.9 0.001    1.8 0.001
```

Figure 196. Database Activity View – Logical (PCB) Level (IDALSUMR)

```
22MAR2002 12:19:37 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDALSUMR=====IMS71H==*=====22MAR2002==12:19:09====MVIMS=====1
PCB      Write OSAM XI  GU  GHU  GHN  GHNP  GN  GNP  ISRT  DLET  REPL
DBNAME   AVG  ReadRate  Rate Rate  Rate  Rate  Rate  Rate  Rate  Rate  Rate
DB1H     0.001    0.0    2.0 53.6    2.0  2.0  2.0  2.0 19.8 19.8 19.8
```

Figure 197. Database Activity View – Logical (PCB) Level, Scrolled Right

```
22MAR2002 12:19:54 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDALSUMR=====IMS71H==*=====22MAR2002==12:19:09====MVIMS=====1
PCB      REPL  Other IMS  IMS  Data  MVS
DBNAME   Rate  Rate  ID   Name  ShrGrp  Name
DB1H     19.8  2.2 H71H IMS71H  NONE    SJSD
```

Figure 198. Database Activity View – Logical (PCB) Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDALSUMR view.

Hyperlink from	To see
Physical DBNAME	IDAPSUMR view, where you can see statistics for I/O incurred against the physical databases that were accessed by DL/I calls from this PCB, whatever the PSBs it may be associated with

Database I/O Activity View – Physical Database Level

This section describes the Database I/O Activity View – Physical Database Level (IDAPSUMR or IDAPGSMR). This view provides information about database I/O activity at the physical database level.

You can use this view to analyze I/O information as it relates to physical databases. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O event totals, rates, and average times for all open databases, excluding DEDB, MSDb, and GSAM databases and activity caused by background write. Buffer pool information is also provided.

Note: For VSAM databases, the Num Vols field in some cases may not reflect the actual number of volumes occupied by a specific database. This can occur (the number of volumes shown can be less than the actual number of volumes) if the database has been extended into more than one new volume and has not subsequently been closed and reopened.

If a database is extended into only one new volume, the value shown in the Num Vols field will be accurate, even if that database has not been subsequently closed and reopened.

To display the Database I/O Activity View – Physical Database Level, enter IDAPSUMR on any command line within IPSM.

IDAPSUMR view is shown in Figure 199, Figure 200, and Figure 201.

```
22MAR2002 12: 20: 46 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDAPSUMR=====IMS71H=====22MAR2002==12: 20: 46====MVIMS=====4
Physical Database          Num   Read Read   Write Write Pool Pool
DBNAME  Type      Partition DDNAME  Vols   Rate AVG   Rate AVG   ID   Type
DB1H    PHI DAM   DB1H1    DB1H1A    1   6.3 0.001   0.0 0.000 OSM4 OSAM
DB1H    PHI DAM   DB1H2    DB1H2A    1   4.7 0.001   0.0 0.000 OSM4 OSAM
DB1H    PINDEX   DB1H2    DB1H2X    1   4.7 0.001   0.0 0.000 XXXX VSM-D
DB1H    PINDEX   DB1H1    DB1H1X    1   4.7 0.001   0.0 0.000 XXXX VSM-D
```

Figure 199. Database I/O Activity View – Physical Database Level (IDAPSUMR)

```
22MAR2002 12: 20: 46 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDAPSUMR=====IMS71H=====22MAR2002==12: 20: 46====MVIMS=====4
Physical Pool      Buffer   PCB      Average      Average      Average      Average
DBNAME  Type      Size    DBNAME  NonKeyRead  KeyRead  NonKeyWrite  KeyWrite
DB1H    OSAM      4096   DB1H    0.001      0.000      0.000      0.000
DB1H    OSAM      4096   DB1H    0.001      0.000      0.000      0.000
DB1H    VSM-D     2048   DB1H    0.000      0.001      0.000      0.000
DB1H    VSM-D     2048   DB1H    0.000      0.001      0.000      0.000
```

Figure 200. Database I/O Activity View – Physical Database Level, Scrolled Right

```

22MAR2002  12: 22: 02  -----  INFORMATION DISPLAY  -----
COMMAND  ===>
CURR WIN ===> 1          ALT WIN ===>
<W1 =IDAPSUMR=====IMS71H====*=====22MAR2002==12: 20: 46====MVIS=====4
Physical Average Average OSAM XI  IMS  IMS      Data      MVS
DBNAME  KeyWrite SyncWrite Read Rate ID   Name      ShrGrp   Name
DB1H      0.000   0.000      0.0 H71H IMS71H  IMSNWAY  SJSC
DB1H      0.000   0.000      0.0 H71H IMS71H  IMSNWAY  SJSC
DB1H      0.000   0.000      0.0 H71H IMS71H  IMSNWAY  SJSC
DB1H      0.000   0.000      0.0 H71H IMS71H  IMSNWAY  SJSC

```

Figure 201. Database I/O Activity View – Physical Database Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAPSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
Num Vols	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. You can use IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases). IDABVDTR and IDABODTR views show buffer pool activity for the selected buffer pool

Database I/O Activity View – Database/Volume Level

This section describes the Database I/O Activity View – Database/Volume Level (IDAXSUMR or IDAXGSMR). This view provides information about database I/O activity at the VSAM component and database volume level.

You can use this view to analyze I/O statistics as they relate to the physical database volumes, and in the case of VSAM, as they relate to specific VSAM database components. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view summarizes information by database, with one row for each volume that the database occupies. If a database occupies more than one volume, there will be more than one line per database. The view shows I/O totals, rates, and average times. Statistics are for all open databases, excluding DEDB, MSDB, and GSAM databases and activity caused by background write. Buffer pool information is also provided.

Note: For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Database/Volume Level, enter IDAXSUMR on any command line within IPSM.

IDAXSUMR view is shown in Figure 202, Figure 203, Figure 204, and Figure 205.

```
22MAR2002 12:22:33 ----- INFORMATION DISPLAY -----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
>W1 =IDAXSUMR=====IMS71H=====22MAR2002==12:22:33====MVIMS=====4
Physical Database
DBNAME Type Partition DDNAME Type VOLSER Rate AVG Rate AVG Write Write Pool
DB1H PHI DAM DB1H1 DB1H1A OSAM BAB321 4.9 0.001 0.0 0.000 OSM4
DB1H PHI DAM DB1H2 DB1H2A OSAM BAB321 3.7 0.001 0.0 0.000 OSM4
DB1H PI NDEX DB1H2 DB1H2X VSM-D BAB305 3.7 0.001 0.0 0.000 XXXX
DB1H PI NDEX DB1H1 DB1H1X VSM-D BAB305 3.7 0.001 0.0 0.000 XXXX
```

Figure 202. Database I/O Activity View – Database/Volume Level (IDAXSUMR)

```
22MAR2002 12:23:08 ----- INFORMATION DISPLAY -----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
+W1 =IDAXSUMR=====IMS71H=====22MAR2002==12:22:33====MVIMS=====4
Physical Pool Pool Buffer Number Nonkey Key NonKey Key
DBNAME ID Type Size Buffers Fixed ReadAVG ReadAVG WriteAVG WriteAVG
DB1H OSM4 OSAM 4096 5 BFR, BLK 0.001 0.000 0.000 0.000
DB1H OSM4 OSAM 4096 5 BFR, BLK 0.001 0.000 0.000 0.000
DB1H XXXX VSM-D 2048 5 BFR, BLK 0.000 0.001 0.000 0.000
DB1H XXXX VSM-D 2048 5 BFR, BLK 0.000 0.001 0.000 0.000
```

Figure 203. Database I/O Activity View – Database/Volume Level, Scrolled Right

```

22MAR2002 12: 23: 35 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
+W1 =IDAXSUMR=====IMS71H====*=====22MAR2002==12: 22: 33====MVIMS=====4
Physical Key      Sync      OSAM XI      Low      High      IMS      IMS      Data
DBNAME  WriteAVG  WriteAVG  Read Rate  RBA/RBN  RBA/RBN  ID      Name      ShrGrp
DB1H    0.000    0.000    0.0       0        0        18 H71H  IMS71H  IMSNWAY
DB1H    0.000    0.000    0.0       0        0        18 H71H  IMS71H  IMSNWAY
DB1H    0.000    0.000    0.0       0        0        347FF H71H  IMS71H  IMSNWAY
DB1H    0.000    0.000    0.0       0        0        347FF H71H  IMS71H  IMSNWAY

```

Figure 204. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

```

22MAR2002 12: 23: 56 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
<W1 =IDAXSUMR=====IMS71H====*=====22MAR2002==12: 22: 33====MVIMS=====4
Physical Data      MVS
DBNAME  ShrGrp     Name
DB1H    IMSNWAY    SJSC
DB1H    IMSNWAY    SJSC
DB1H    IMSNWAY    SJSC
DB1H    IMSNWAY    SJSC

```

Figure 205. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAXSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
VOLSER	IDAVSUMR view, where you can see statistics for all I/O to this volume, not just to this database. In IDAVSUMR view you can see how much of the I/O total is occurring to the volume
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases), which show buffer pool activity for the selected buffer pool.

Database I/O Activity View – Volume Level

This section describes the Database I/O Activity View – Volume Level (IDAVSUMR or IDAVGSMR). This view provides database I/O activity information at the volume level.

You can use this view to analyze I/O information as it relates to the volumes. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows information about the database I/O activity that occurs to each volume. For each volume, it identifies I/O totals, rates, and average times for all open databases, excluding DEDB, MSDB, and GSAM databases and activity caused by background write.

Note: For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Volume Level, enter IDAVSUMR on any command line within IPSM.

The view is shown in Figure 206 and Figure 207.

```
22MAR2002 12:26:01 ----- INFORMATION DISPLAY -----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
>W1 =IDAVSUMR=====IMS71H=====22MAR2002==12:26:00====MVIMS=====2
      Physi cal      Read Read      Write Write      Nonkey Key      NonKey
VOLSER DBNAME      DDNAME Rate AVG      Rate AVG      ReadAVG ReadAVG WriteAVG
BAB321 DB1H      DB1H1*** 7.7 0.003 1.7 0.002 0.003 0.000 0.002
BAB305 DB1H      DB1H1X 3.9 0.002 0.0 0.000 0.000 0.002 0.000
```

Figure 206. Database I/O Activity View – Volume Level (IDAVSUMR)

```
22MAR2002 12:26:21 ----- INFORMATION DISPLAY -----
COMMAND =====> SCROLL =====> PAGE
CURR WIN =====> 1 ALT WIN =====>
<W1 =IDAVSUMR=====IMS71H=====22MAR2002==12:26:00====MVIMS=====2
      NonKey Key      Syncpt OSAM XI IMS IMS      Data MVS
VOLSER WriteAVG WriteAVG WriteAVG Read Rate ID Name ShrGrp Name
BAB321 0.002 0.000 0.000 0.0 H71H IMS71H NONE SJSD
BAB305 0.000 0.000 0.000 0.0 H71H IMS71H NONE SJSD
```

Figure 207. Database I/O Activity View – Volume Level, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDAVSUMR view.

Hyperlink from	To see
Physical DBNAME	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity Detail View – VSAM Buffer Pool Level

This section describes the Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR) which is shown in Figure 208. This view provides information about a selected VSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, hiperspace space utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – VSAM Buffer Pool Level, enter IDABVDTR on any command line within IPSM.

22MAR2002 12: 26: 01 ----- INFORMATION DISPLAY -----			
COMMAND ==>		SCROLL ==> PAGE	
CURR WIN ==> 1		ALT WIN ==>	
<W1 =IDABVDTR=====IMS71H=====22MAR2002==16: 43: 54====MVIMS=====1			
BUFFER POOL DEFINITION...		Sample Seconds.....	5
VSAM Pool ID.....	XXXX	IMS ID.....	H71H
VSAM Pool Number.....	4	IMS Name.....	IMS71H
Pool Type.....	DATA	MVS Name.....	SJSC
Buffer Fix Options.....	BFR, BLK	Data Sharing Group....	NONE
Buffer Size.....	4096	Databases with I/O....	DB1H
Number Buffers.....	5	DD Names.....	DB1H****
Number Hiperspace Buffers.	5	VOLSERS.....	BAB3**
BUFFER POOL STATISTICS...		RELATED I/O STATISTICS.	
Hit Ratio.....	100.00	Read I/O Rate.....	0.00
Hiperspace Hit Ratio.....	0.00	Write I/O Rate.....	0.00
Average Time In Pool.....	?	Sync Write Rate.....	0.00
CI Search Rate.....	409.05	Background Write Rate..	0.00
Successful Hprs Read Rate.	0.00	Buffer Steal Write Rate	0.00
Failed Hprs Read Rate....	0.00		
Successful Hprs Write Rate	0.00		
Failed Hprs Write Rate....	0.00		

Figure 208. Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press the help key.

The following hyperlink is provided in the IDABVDTR view.

Hyperlink from	To see
Database with I/O	IDAXSUM view, where you can see the statistics broken down by VSAM component and volume. You can use IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity Detail View – OSAM Buffer Pool Level

This section describes the Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR), which is shown in Figure 209. This view provides information about a selected OSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, OSAM cache utilization, sequential buffering utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – OSAM Buffer Pool Level, enter IDABODTR on any command line within IPSM.

```

22MAR2002 12:26:01 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDABODTR=====IMS71H====*=====22MAR2002==16:43:54====MVIMS=====1
  BUFFER POOL DEFINITION
  OSAM Pool ID.....      OSM4      IMS ID.....      H71H
  Buffer Fix Options....  BFR, BLK   IMS Name.....     IMS71H
  OSAM Cache Option....  NoCache  MVS Name.....     SJSC
  Buffer Size.....        4096      Data Sharing Group.... NONE
  Number Buffers.....    5         Databases with I/O.... DB1H
                                   DD Names.....      DB1H****
                                   VOLSERS.....      BAB321

  BUFFER POOL STATISTICS
  Hit Ratio.....          30.06     Read I/O Rate.....  72.46
  OSAM Cache Hit Ratio..  N/A      Write I/O Rate.....  0.00
  OSAM Cache Search Rate  N/A      Sync Write Rate.....  0.00
  Average Time In Pool..  0.02      Buffer Steal Write Rate  0.00
  OSAM Block Search Rate  310.78  Purge Write Rate.....  0.00
  OSAM XI I/O Rate.....   0.00      SB Async Seq Read Rate.  0.00
                                   SB Sync Seq Read Rate..  0.00

```

Figure 209. Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press the help key.

The following hyperlink is provided in the IDABODTR view.

Hyperlink from	To see
Database with I/O	IDAXSUM view, where you can see the statistics broken down by OSAM component and volume. You can use IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity View – VSAM Buffer Pool Level

This section describes the Database Activity View – VSAM Buffer Pool Level (IDABVSMR), which is shown in Figure 210, Figure 211, and Figure 212. This view provides database I/O activity information for VSAM databases summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open VSAM databases.

To display the Database Activity View – VSAM Buffer Pool Level, enter IDABVSMR on any command line within IPSM.

```
22MAR2002 12:36:15 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDABVSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====5
VSAM   Pool Bufr  Num  Srch Hit  Hprsp HprHit AVGTime Databases Read  Write
Pool ID Type Size  Bufr Rate Ratio Bufr  Ratio InPool with I/O Rate Rate
XXXX   DATA 2048   5 1.89 25.4   0 0.00   3.55 DB1H    0.5 0.00
XXXX   DATA  512   5 0.00  0.0   0 0.00    ?      0.0 0.00
XXXX   DATA 1024   5 0.00  0.0   0 0.00    ? DB1H    0.0 0.00
XXXX   DATA 4096   5 1.89 100.0 5 0.00    ? DB1H    0.0 0.00
XXXX   DATA 8192   5 0.00  0.0   5 0.00    ?      0.0 0.00
```

Figure 210. Database Activity View – VSAM Buffer Pool Level (IDABVSMR)

```
22MAR2002 12:36:41 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABVSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====5
VSAM   Write Read  Write Syncpt      BufrSteal  Bckground  SuccHpr  Fail Hpr
Pool ID Rate  AVG  AVG  WriteRate  WriteRate  WriteRate  ReadRate  ReadRate
XXXX   0.00 0.001 0.000   0.000   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00
```

Figure 211. Database Activity View – VSAM Buffer Pool Level, Scrolled Right

22MAR2002 12:37:12 ----- INFORMATION DISPLAY -----

COMMAND ==>

SCROLL ==> PAGE

CURR WIN ==> 1

ALT WIN ==>

+W1 =IDABVSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====5

VSAM	FailHpr	SuccHpr	FailHpr	Data	IMS	IMS	MVS
Pool ID	ReadRate	WriteRate	WriteRate	Fixed	ShrGrp	ID	Name
XXXX	0.00	0.00	0.00	BFR, BLK	IMSNWAY	H71H	IMS71H
XXXX	0.00	0.00	0.00	BFR, BLK	IMSNWAY	H71H	IMS71H
XXXX	0.00	0.00	0.00	BFR, BLK	IMSNWAY	H71H	IMS71H
XXXX	0.00	0.00	0.00	BFR, BLK	IMSNWAY	H71H	IMS71H
XXXX	0.00	0.00	0.00	BFR, BLK	IMSNWAY	H71H	IMS71H

Figure 212. Database Activity View – VSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABVSMR view.

Hyperlink from	To see
VSAM Pool ID	IDABVDTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

Database Activity View – OSAM Buffer Pool Level

This section describes the Database Activity View – OSAM Buffer Pool Level (IDABOSMR), which is shown in Figure 213, Figure 214, and Figure 215. This view provides database I/O activity information for OSAM databases, summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open OSAM databases.

To display the Database Activity View – OSAM Buffer Pool Level, enter IDABOSMR on any command line within IPSM.

```
22MAR2002 12:37:12 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDABOSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====4
OSAM  Bufr  Num  Srch Hit  OSAMCach OSAMCach AvgTime Databases Read Write
Pool ID Size Bufrs Rate Ratio HitRatio Option In Pool With I/O Rate Rate
OSM4   4096   5 84.2 39.84   0.00 All       0.10 DB1H    16.90 0.00
(none) 1024   5 0.00 0.00   N/A NoCache      0.00 0.00
(none) 2048   5 0.00 0.00   N/A NoCache      0.00 0.00
(none) 8192   5 0.00 0.00   N/A NoCache      0.00 0.00
```

Figure 213. Database Activity View – OSAM Buffer Pool Level (IDABOSMR)

```
22MAR2002 12:36:41 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABOSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====4
OSAM  Write Read Write Synct BufrSteal Purge SBASyncSeq SBSyncSeq
Pool ID Rate AVG AVG WriteRate WriteRate WriteRate ReadRate ReadRate
OSM4   0.00 0.001 0.000   0.00   0.00   0.02   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00
```

Figure 214. Database Activity View – OSAM Buffer Pool Level, Scrolled Right

```
22MAR2002 12:37:12 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABOSMR=====IMS71H====*=====22MAR2002==12:36:15====MVIMS=====4
OSAM  SBSyncSeq Buffer Fix Data  IMS  IMS  MVS
Pool ID ReadRate Settings ShrGrp ID  Name  Name
OSM4   0.00 BFR, BLK  IMSNWAY H71H IMS71H SJSC
(none) 0.00 BFR, BLK  IMSNWAY H71H IMS71H SJSC
(none) 0.00 BFR, BLK  IMSNWAY H71H IMS71H SJSC
(none) 0.00 BFR, BLK  IMSNWAY H71H IMS71H SJSC
```

Figure 215. Database Activity View – OSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABOSMR view.

Hyperlink from	To see
OSAM Pool ID	IDABODTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by OSAM component and volume. With IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or OSAM component.

Chapter 18. Managing Shared Message Queues

This chapter describes the CQS (Common Queue Service) information views provided for users running with shared message queues.

The CQS information views help you manage and solve problems with IMS shared message queuing. You can use the views to determine

- the CQS configuration (ISQSUMR and ISQDTLR views)
- the total messages (ISQSTR view)
- which queue types are having problems (ISQQTR view)
- which queues are building up (ISQINR and ISQOUTR views)

You can easily

- check configuration and status, such as how the structures and CQS are defined for the IMS (ISQSUMR or ISQDTLR view)
- check performance information, such as the number of tasks for IMS that are waiting for services from a CQS (ISQDTLR view)
- drill down to see which messages are on the shared queues (ISQSTR or ISQQTR view)

Message information is provided by structure type, queue type, and individual queue name, which helps you determine the status of the shared queues and solve problems in diverse situations, such as when a shared message queue structure is in Rebuild or overflow.

The following CQS information views are provided:

View name	Description
ISSIQUES	Shared Queues Group IMS Structure
ISQSUMR	Shared Message Queue Information
ISQDTLR	Shared Message Queue Detail
ISQSTR	Messages by Structure
ISQSTAR	Messages by Structure with Message Ages
ISQQTR	Messages by Queue Type
ISQQTAR	Messages by Queue Type with Message Ages
ISQINR	Input Messages by Queue Name
ISQINAR	Input Messages by Queue Name with Message Ages
ISQOUTR	Output Messages by Queue Name
ISQOUTAR	Output Messages by Queue Name with Message Ages
ISQOWNER	Messages by IMS Owner
ISQMR	Queue Menu

Accessing the CQS Information Views

You can display the CQS information views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting from the list of views.

You can also hyperlink to the CQS information views from the IMS Easy Menu (EZIMS), the IMS Sysplex Easy Menu (EZISSI), and the IMS Fast Menu (EZIFAST).

Shared Message Queue Data Collection

When the MVIMS Shared Queues Data Server is operating, the messages by structure, queue type, and queue name views provide shared queue statistics for IMS systems that use shared message queues. When the Shared Queues Data Server is not operating, the letters SMQ are displayed in the statistics fields for IMS systems that use shared queues.

You can use the parameter ISQUERY in BBPARM member IMFBEX00 to turn the Shared Queues Data Server off or on and to control its data refresh rates. For more information about the parameter, see Chapter 21, “Controlling Shared Message Queue Data Collection” on page 291.

Shared Queues Group IMS Structure View

This section describes the Shared Queues Group IMS Structure view (ISSIQUES), which is shown in Figure 216. The ISSIQUES view provides an overview of the number and status of the IMS systems in each shared queues group.

This view is summarized by shared queues group name. Each row shows the number of IMS systems in a shared queues group, the status of the IMS systems (asterisks if they have different statuses), and IMS names and types.

To display the Shared Queues Group IMS Structure view, enter ISSIQUES on any command line in IPSM. You can also hyperlink to ISSIQUES from the Structures and Queues option on the EZIMS and EZISSI menus and from the SMQ Structures option on the EZIFAST menu.

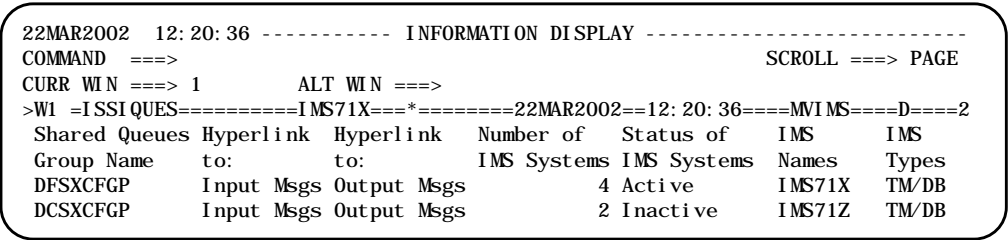


Figure 216. Shared Queues Group IMS Structure View (ISSIQUES)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISSIQUES view.

Hyperlink from	To see
Shared Queues Group Name	ISQSUMR view, which provides definitional and performance information about shared message queue structures and CQS for the selected shared queues group
Hyperlink to: Input Msgs	ISQINR view, which provides information about all the transaction type queues in the selected shared queues group
Hyperlink to: Output Msgs	ISQOUTR view, which provides information about all the LTERM type queues in the selected shared queues group

Shared Message Queue Information View

This section describes the Shared Message Queue Information view (ISQSUMR), which is shown in Figures 217, 218, and 219. You can use the ISQSUMR view to check status and other information about the shared message queue structures that your IMS accesses and the CQS that manages those structures.

The Shared Message Queue Information view

- displays both definitional and performance information
- identifies the structure and overflow structure name, status, and type
- shows the connection and registration tokens
- shows whether the structure quiesces during rebuild (Wait for Rebuild attribute)
- identifies the CQS ID, jobname, version, procedure, status, and backlog
- shows number of sync blocks and the short and long message size
- identifies IMS ID, IMS jobname, and OS/390 name

The ISQSUMR view is useful for determining what structures you are using, what structures you need to look at, and the condition of your structures (for instance, if a structure is waiting for Rebuild or if there is a backlog).

After using the ISQSUMR view to get information about a structure, you can investigate further by displaying the Messages by Structure, Messages by Queue Type, and Messages by Queue Name views, which are described later in this chapter.

To display the Shared Message Queue Information view, enter ISQSUMR on any command line in IPSM. You can also hyperlink from the Shared Queues Group Name on the ISSIQUES view.

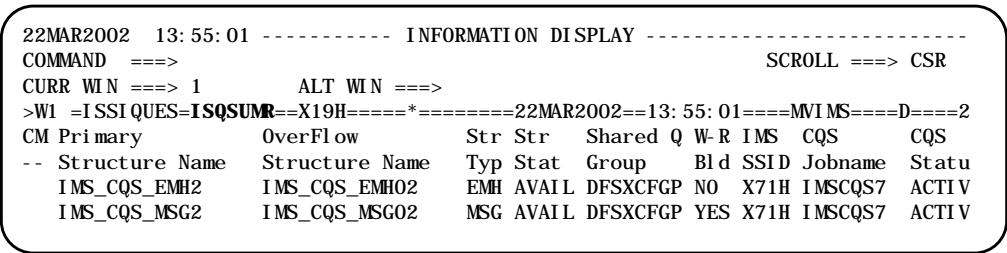


Figure 217. Shared Message Queue Information View (ISQSUMR)

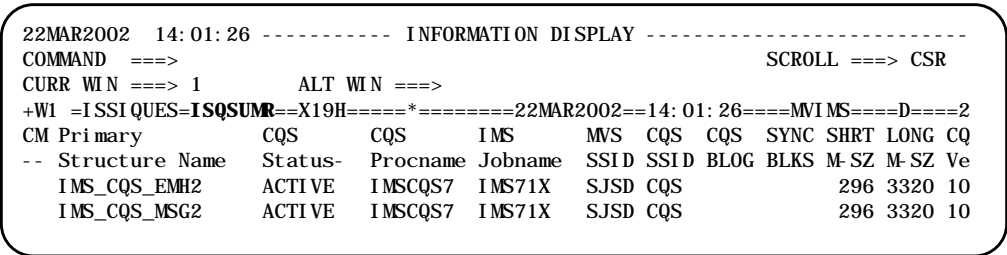


Figure 218. Shared Message Queue Information View, Scrolled Right

```

22MAR2002 14: 01: 43 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =ISSIQUES=ISQSUMR=X19H=====*=====22MAR2002==14: 01: 43====MVI MS====D====2
CM Primary          CQS Connection      Registration
-- Structure Name  Ver  Token           Token
IMS_CQS_EMH2       1020 0216BCEA357E62D8 13686A28B6BCEA5A
IMS_CQS_MSG2       1020 0216BCEA357E62D7 13686A28B6BCEA5A

```

Figure 219. Shared Message Queue Information View, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQSUMR view.

Hyperlink from	To see
Primary Structure Name	ISQDTLR view, which provides detailed shared message queue information for the selected structure
Str Typ	ISQSTR view, which shows the total number of messages queued for the selected structure

Shared Message Queue Detail View

This section describes the Shared Message Queue Detail view (ISQDTLR), which is shown in Figure 220. You can use the ISQDTLR view to check status and other information about a selected shared message queue structure and the CQS that manages the structure

The Shared Message Queue Detail view

- displays both definitional and performance information
- identifies the structure and overflow structure name, status, and type
- shows the connection and registration tokens and whether the structure quiesces during rebuild (Wait for Rebuild attribute)
- identifies the CQS ID, jobname, version, procedure, status, and backlog
- shows number of sync blocks and the short and long message size
- identifies IMS ID, IMS jobname, and OS/390 name

This view is useful for determining the condition of your shared message queue structures (their status, whether they are waiting for Rebuild, whether there is a backlog). After you use the view to check the condition of your shared message queue structures, you can investigate further by displaying the Messages by Structure, Messages by Queue Type, and Messages by Queue Name views, described later in this chapter.

To display the Shared Message Queue Detail view, enter ISQDTLR on any command line in IPSM. You can also hyperlink to this view from the Primary Structure Name field in the ISQSUMR view.

```
22MAR2002 16:07:41 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ISQSUMR==ISQDTLR=X19H=====22MAR2002==16:07:41====MVIMS====D====1
Primary Struc Name.      IMS_CQS_EMH CQS Backlog. . .
OverFlow Struc Name      Sync Bl ks. . . .
Structure Type. . . .    EMH
Structure Status. . . .  AVAIL
Wait for ReBuild. . . .  NO Short Msg Size          296
Shared Q Group. . . .    DFSXCFGP Long Msg Size.      3320
CQS Status. . . . .      ACTIVE CQS Version. . .      10100
CQS Jobname. . . . .     IMSCQSX Conn Token. . . 020F4804C1F5FEE8
CQS SSID. . . . .        CQSX Reg Token. . . . 0F566018AF4804E9
CQS Proc Name. . . . .   IMSCQSX
IMS Jobname. . . . .     IMS71X
IMS SSID. . . . .        X19H
MVS SSID. . . . .        SYSC
```

Figure 220. Shared Message Queue Detail View (ISQDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

Messages by Structure View

This section describes the Messages by Structure view (ISQSTR), which is shown in Figure 221. This view provides an overview of the contents of each shared message queue structure type.

The ISQSTR view is summarized by structure type. Each row shows the total number of messages queued for an individual structure type. You can hyperlink from the ISQSTAR Oldest Date field to display the ISQSTAR view, which shows the date and timestamp of the oldest and newest messages queued on the selected structure type.

The ISQSTR view is useful for determining what type of structure you need to look at to see what is responsible for a buildup of messages.

To display the Messages by Structure view, enter ISQSTR on any command line in IPSM. You can also hyperlink to this view from the Str Typ field in the ISQSUMR view.

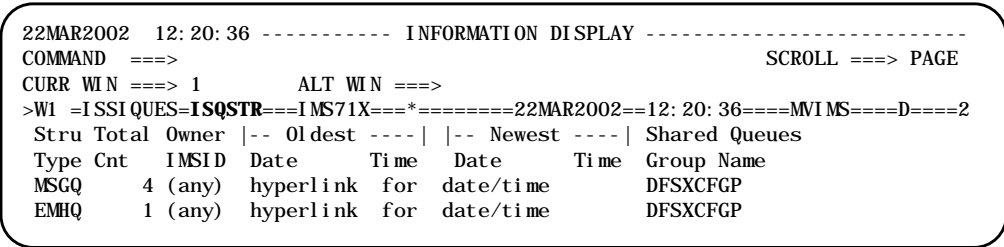


Figure 221. Messages by Structure View (ISQSTR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQSTR view.

Hyperlink from	To see
Total Cnt	ISQQTR view, which provides information about the messages queued for each of the queue types on the selected structure type
Oldest Date	ISQSTAR view, which provides a date and timestamp of the oldest and newest messages queued on the selected structure type

Messages by Structure with Message Ages View

This section describes the Messages by Structure with Message Ages view (ISQSTAR), which is shown in Figure 222. The ISQSTAR view provides a date and timestamp for the oldest and newest messages in the structure type selected in the ISQSTR view.

To display the Messages by Structure with Message Ages view, enter ISQSTAR on any command line in IPSM. You can also hyperlink to the view from the Oldest Date field in the ISQSTR view.

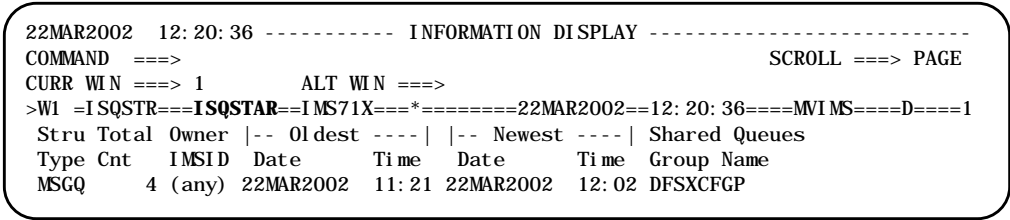


Figure 222. Messages by Structure with Message Ages View (ISQSTAR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in the view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlink is provided in the ISQSTAR view.

Hyperlink from	To see
Total Cnt	ISQQTAR view, which provides information about the messages queued for each of the queue types on the selected structure type and includes the data and timestamp for the oldest and newest messages on the queues

Messages by Queue Type View

This section describes the Messages by Queue Type view (ISQQTR), which is shown in Figure 223. The ISQQTR view provides the same information as the ISQSTR view, but at a finer level of detail.

Shared message queue structure information is summarized by queue type. Each row shows the total number of messages queued for a specific queue type. You can hyperlink from the ISQQTR Oldest Date field to display the ISQQTAR view, which shows the date and timestamp for the oldest and newest messages on all the queue types displayed in the ISQQTR view.

The ISQQTR view is useful for determining whether work is coming in, whether incoming work is getting processed, and if there are messages on the shared message queue waiting to be sent or dequeued.

To display the Messages by Queue Type view, enter ISQQTR on any command line in IPSM. You can also hyperlink to the view from the Total Cnt field in the ISQSTR view.

```
22MAR2002 11: 56: 13 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ISQSTR==ISQQTR==IMS71X==*=====22MAR2002==11: 56: 13==MVI MS==D==3
Queue      Stru Total Owner |-- Oldest ----| |-- Newest ----| Shared Queues
Type       Type Cnt  IMSID Date      Time   Date      Time   Group Name
Lterm Ready MSGQ    5 (any) hyperlink for date/time DFSXCFGP
Tran Suspend MSGQ    8 (any) hyperlink for date/time DFSXCFGP
Tran Ready  MSGQ   864 (any) hyperlink for date/time DFSXCFGP
```

Figure 223. Messages by Queue Type View (ISQQTR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press the help key.

The following hyperlinks are provided in the ISQQTR view.

Hyperlink from	To see
Total Cnt	ISQINR view (for transaction queue types) or ISQOUTR view (for LTERM queue types), which provide information about the messages on the queues of the selected queue type
Oldest Date	ISQQTAR, which provides a date and timestamp for the oldest and newest messages on all the queue types displayed in the ISQQTR view

Messages by Queue Type with Message Ages View

This section describes the Messages by Queue Type with Message Ages view (ISQQTAR), which is shown in Figure 224.

You can hyperlink on the Oldest Date field in the ISQQTR view, to display the ISQQTAR view with a date and timestamp for the oldest and newest messages on all the queue types displayed in the ISQQTR view.

You can also display the view by entering ISQQTAR on any command line in IPSM. You can hyperlink to the view from the Total Cnt field in the ISQSTAR view and from the Oldest Date field in the ISQQTR view.

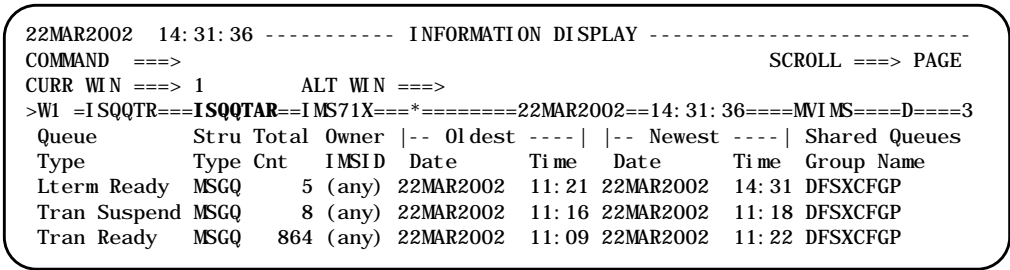


Figure 224. Messages by Queue Type with Message Ages View (ISQQTAR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in the view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlink is provided in the ISQQTAR view.

Hyperlink from	To see
Total Cnt	ISQINR view (for transaction queue types) or ISQOUTR view (for LTERM queue types), which provide information about the messages on the queues of the selected queue type

Input Messages by Queue Name View

This section describes the Input Messages by Queue Name view (ISQINR), which is shown in Figure 225. This view provides the same information for input messages as the ISQQTR view, but at a finer level of detail.

Information is summarized by individual queue. Each row shows the queue name, the queue type, and the total number of input messages on the queue.

Note: Whether you have specified a single target or set your target to include multiple IMS systems (for example, using the SSI CONtext ALL command), the information returned to this view by the Coupling Facility will be the same. Because messages are kept by CQS rather than by individual IMS systems (and thus include messages associated with all IMS systems), all information shown in the view will be for all IMS systems.

To display the Input Messages by Queue Name view, enter ISQINR on any command line in IPSM. You can also hyperlink to this view from the Total Cnt field in the ISQQTR and ISQQTAR views.

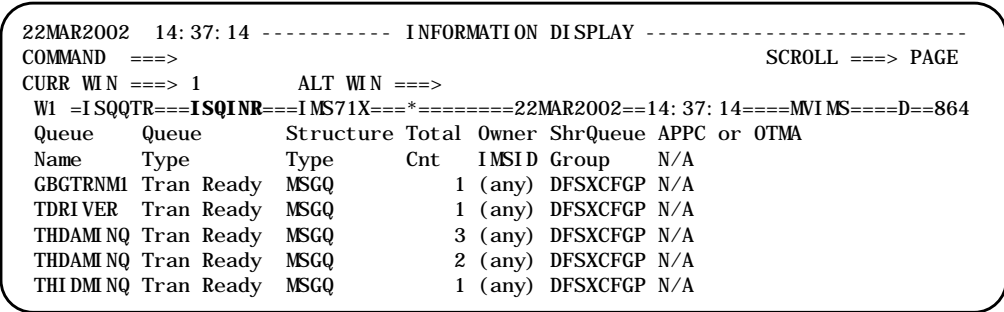


Figure 225. Input Messages by Queue Name View (ISQINR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQINR view.

Hyperlink from	To see
Queue Name	ISQMR menu, where you can access additional information about the queue
Total Cnt	ITRSUMR view, where you can check the status of individual transactions and issue line commands against them
Owner IMSID	ISQOWNER view (for queues owned by a single IMS), which provides information about messages that must be processed by a particular IMS in a shared queues group

Input Messages by Queue Name with Message Ages View

This section describes the Input Messages by Queue Name with Message Ages view (ISQINAR), which is shown in Figure 226. This view provides a date and timestamp for the oldest and newest input messages on selected queues.

To display the Input Messages by Queue Name with Message Ages view, enter ISQINAR on any command line in IPSM. You can also hyperlink to ISQINAR from the Oldest/Newest Msg Ages option on the ISQMR Queue Menu.

```
22MAR2002 14: 31: 36 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ISQINR==ISQINAR==IMS71X==*=====22MAR2002==14: 31: 36====MVI MS====D====1
Queue      Queue      Stru Total  Owner  |- Oldest  --- |  |- Newest  --- |  ShrQueue
Name       Type          Type Cnt  IMSID Date      Time   Date      Time   Group
GBGTRNMI  Tran Ready  MSGQ      1 (any) 22MAR2002 09: 18 22MAR2002 09: 18 DFSXCFGP
```

Figure 226. Input Messages by Queue Name with Message Ages View (ISQINAR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in the view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQINAR view.

Hyperlink from	To see
Total Cnt	ITRSUMR view, where you can check the status of individual transactions and issue line commands against them
Owner IMSID	ISQOWNER view (for queues owned by a single IMS), which provides information about messages that must be processed by a particular IMS in a shared queues group

Output Messages by Queue Name View

This section describes the Output Messages by Queue Name view (ISQOUTR), which is shown in Figure 227. This view provides the same information for output messages as the ISQQTR view, but at a finer level of detail.

Information is summarized by individual queue name. Each row shows the total number of output messages queued and the queue type for that specific queue.

Note: Whether you have specified a single target or set your target to include multiple IMS systems (for example, using the SSI CONtext ALL command), the information returned to this view by the Coupling Facility will be the same. Because messages are kept by CQS rather than by individual IMS systems (and thus include messages associated with all IMS systems), all information shown in the view will be for all IMS systems.

To display the Output Messages by Queue Name view, enter ISQOUTR on any command line in IPSM. You can also hyperlink to this view from the Total Cnt field in the ISQQTR and ISQQTAR views.

```
22MAR2002 14: 37: 14 ----- I N F O R M A T I O N   D I S P L A Y -----
COMMAND  ===>                                SCROLL  ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ISQQTR==ISQOUTR==IMS71X==*=====22MAR2002==14: 37: 14====MVI MS====D====5
Queue      Queue      Structure Total  Owner ShrQueue APPC or OTMA
Name       Type        Type      Cnt   IMSID Group   Timestamp
GBGLTRM1 Lterm Ready MSGQ      1 (any) DFSXCFGP N/A
GBGLTRM2 Lterm Ready MSGQ      1 (any) DFSXCFGP N/A
THA1OUTQ Lterm Ready MSGQ      3 (any) DFSXCFGP N/A
THA3OUTQ Lterm Ready MSGQ      2 (any) DFSXCFGP N/A
THI DOUTQ Lterm Ready MSGQ      1 (any) DFSXCFGP N/A
```

Figure 227. Output Messages by Queue Name View (ISQINR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQOUTR view.

Hyperlink from	To see
Queue Name	ISQMR menu, where you can access additional information about the queue
Total Cnt	IULTERM view (for LTERM queues), which displays information about the status of the LTERM associated with a terminal or user
Total Cnt	IOTMATRN view (for OTMA queues), which displays OTMA message information
Owner IMSID	ISQOWNER view (for queues owned by a single IMS), which provides information about messages that must be processed by a particular IMS in a shared queues group

Output Messages by Queue Name with Message Ages View

This section describes the Output Messages by Queue Name with Message Ages view (ISQOUTAR), which is shown in Figure 228. This view provides a date and timestamp for the oldest and newest output messages on selected queues.

To display the Output Messages by Queue Name with Message Ages view, enter ISQOUTAR on any command line in IPSM. You can also hyperlink to ISQOUTAR from the Oldest/Newest Msg Ages option on the ISQMR Queue Menu.

```
22MAR2002 14: 31: 36 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ISQOUTR==ISQOUTAR=IMS71X==*=====22MAR2002==14: 31: 36====MVIMS====D====1
Queue      Queue      Stru Total Owner  |- Oldest  --- |  |- Newest  --- | ShrQueue
Name       Type          Type Cnt  IMSID Date    Time    Date    Time  Group
GBGLTRM1  Lterm Ready  MSGQ      1 (any) 22MAR2002 09: 18 22MAR2002 09: 18 DFSXCFGP
```

Figure 228. Output Messages by Queue Name with Message Ages View (ISQINAR)

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in the view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQOUTAR view.

Hyperlink from	To see
Total Cnt	IULTERM view (for LTERM queues), which displays information about the status of the LTERM associated with a terminal or user
Total Cnt	IOTMATRN view (for OTMA queues), which displays OTMA message information
Owner IMSID	ISQOWNER view (for queues owned by a single IMS), which provides information about messages that must be processed by a particular IMS in a shared queues group

Messages by IMS Owner ID

This section describes the Messages by IMS Owner view (ISQOWNER), which is shown in Figures 229 and 230. The view provides the same information as the ISQQTR view, but at a finer level of detail.

Information is summarized by individual IMS owner ID. Each row shows the total number of messages queued and the queue type for a specific queue. You can hyperlink from the Oldest Date field of an LTERM queue to access the ISQOUTAR view, which shows the date and timestamp for the oldest and newest output messages on the queue. You can hyperlink from the Oldest Date field of a transaction queue to access the ISQINAR view, which shows the date and timestamp for the oldest and newest input messages on the queue.

Note: Whether you have specified a single target or set your target to include multiple IMS systems (for example, using the SSI CONText ALL command), the information returned to this view by the Coupling Facility will be the same. Because messages are kept by CQS rather than by individual IMS systems (and thus include messages associated with all IMS systems), all information shown in the view will be for all IMS systems.

To display the Messages by IMS Owner ID view, enter ISQOWNER on any command line in IPSM. You can also hyperlink to this view from the Owner IMSID field in the ISQINR, ISQINAR, ISQOUTR, and ISQOUTAR views.

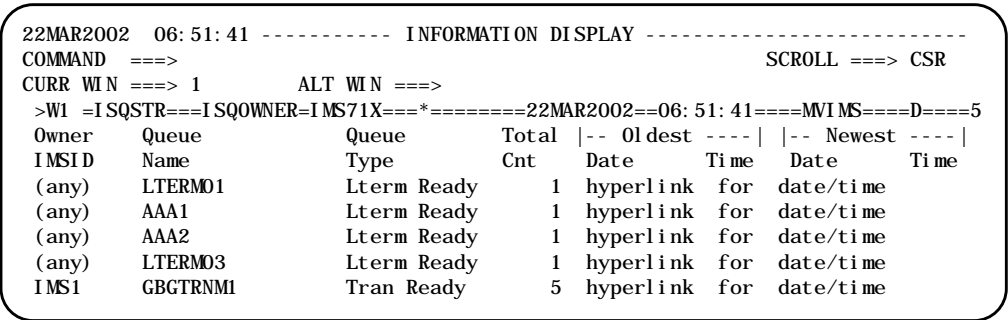


Figure 229. Messages by IMS Owner ID View (ISQOWNER)

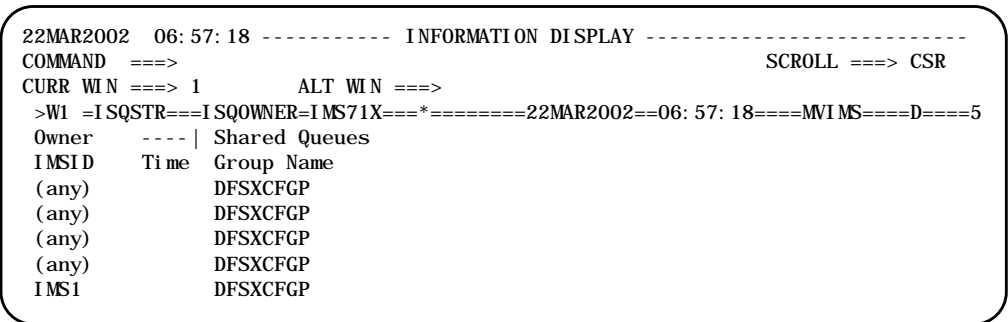


Figure 230. Messages by IMS Owner ID View, Scrolled Right

Note: When you use the CQS messages views, set the context to include all the IMS systems in a *single* shared message queues group (and exclude all IMS systems that are not members of the group).

For descriptions of the fields in this view, see the online help. To display online field help, position your cursor on any field and press your help key.

The following hyperlinks are provided in the ISQOUTAR view.

Hyperlink from	To see
Queue Name	ITRSUMR view (for transaction queues), where you can check the status of individual transactions and issue line commands against them
Queue Name	IULTERM view (for LTERM queues), which displays information about the status of the LTERM associated with a terminal or user
Queue Name	IOTMATRN view (for OTMA queues), which displays OTMA message information
Oldest Date	ISQOUTAR view (for LTERM queue types) or ISQINAR view (for all other queue types), which show the date and timestamp for the oldest and newest messages on a queue

Queue Menu

The Queue Menu (ISQMR), shown in Figure 231, is a starting point for linking to information about specific queues.

When you hyperlink to the Queue Menu from a queue entry on a tabular display, the menu will be filtered on the queue you selected.

You can hyperlink to the ISQMR menu from the Queue Name field on the ISQINR and ISQOUTR views.

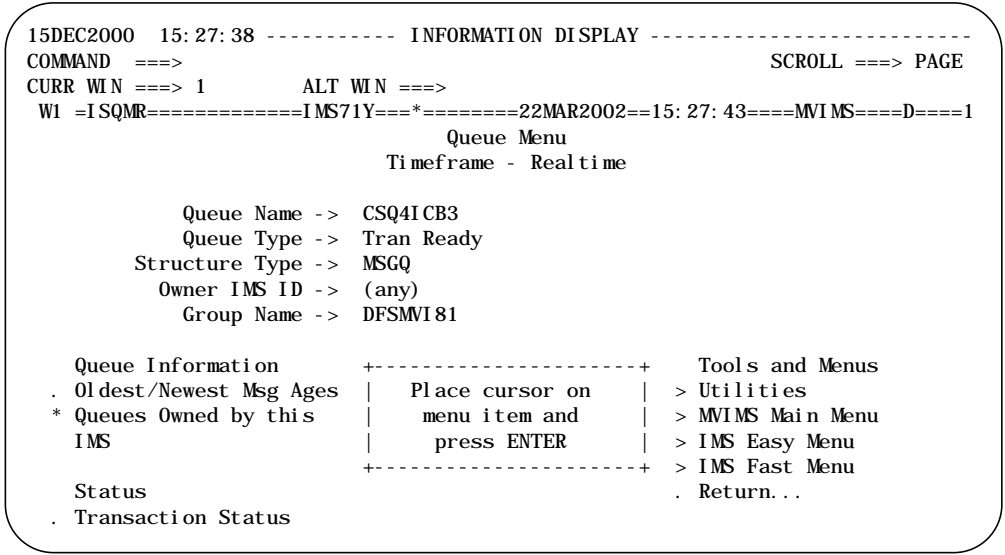


Figure 231. Queue Menu (ISQMR)

To use the Queue Menu, position the cursor on any option of interest and press Enter. A view providing the information you requested will be displayed.

If you hyperlink on the Oldest/Newest Msg Ages field, you will get the ISQINAR view for transaction queue types or the ISQOUTR view for LTERM queue types. ISQINAR and ISQOUTR provide a date and timestamp for the oldest and newest messages on the queue.

If you are viewing information for a queue owned by a single IMS and you hyperlink on the Queues Owned by this IMS field, you will access the ISQOWNER view, which provides information about messages that must be processed by a particular IMS in a shared queues group.

Part 5. Managing IPSM

This section describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system. IPSM collects target system sampling for the components of response time (CORT) and workflow views. It provides information about controlling the collection of shared message queue data, securing resources, and accessing IMS product lists.

Chapter 19. Setting Target Samplers	285
ISAMP – Sampler Administration	285
ISAMPD – Sampler Administration Detail	287
Controlling Sampler Defaults	288
Chapter 20. Controlling Samplers	289
ISAMPOP – Sampler Operations Administration	289
ISAMPOPD – Sampler Operations Administration Detail	290
Chapter 21. Controlling Shared Message Queue Data Collection	291
CQS Information Views with Message Age Fields	291
Non-Workflow Views with Message Count Fields	292
Workflow Views with Message Count Fields	292
Chapter 22. Securing IPSM Resources	293
SERDEF – Security Resource Definitions	293
SERDEFE – Security Resource Definition Detail	294
Chapter 23. Viewing a List of BMC Software IMS Products	295
Accessing the Product Views	295
BMC Software Products Summary View	296
BMC Software Products Detail View	297

Chapter 19. Setting Target Samplers

A sampler makes periodic observations of the state of one or more target IMS systems. These observations are accumulated and presented as performance information in the workflow and components of response time (CORT) views. The rate of sampling and the types of information collected can be controlled by using sampler definition parameters. Administrative views let you add or change sampler definitions for targets.

Sampler parameter definitions are shown by the ISAMP and ISAMPD system administration views.

ISAMP – Sampler Administration

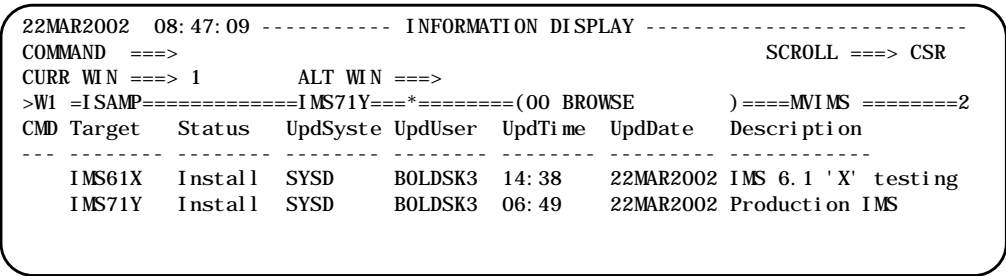


Figure 232. ISAMP View

You can select the ISAMP view at any time by entering one of the following view names on the command line:

- COMMAND ==> ISAMP
- COMMAND ==> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMP from the list of ADMIN views.

- COMMAND ==> VIEWS

Select ISAMP from the list of views.

To add a new target sampler definition or change an existing one, you must first enter the following on the command line:

COMMAND ==> EDIT

The window information line changes from **BROWSE** to **EDIT**. In edit mode, you can use

- Primary commands to
 - **ADD** a new definition
 - **CANCEL** any changes made
This discards any changes made to the definition since the last save.
 - **SAVE** a definition you have added or changed
 - **END** your edit session
This saves any changes you made and redisplay the previous view.
- Line commands to select an existing definition to
 - **ADD** a definition using one you selected as a model
 - **CHAnge** the selected definition
 - **DELeTe** the selected definition
 - **UNDelete** or recover the selected definition if it is not saved
 - **INStall** or activate the selected definition

Online help describes how to use these commands. Select the view name with your cursor, press your help key, and then select Actions from the help window.

ISAMPD – Sampler Administration Detail

22MAR2002 09:24:50 ----- INFORMATION DISPLAY -----									
COMMAND ==>					SCROLL ==> CSR				
CURR WIN ==> 1		ALT WIN ==>							
W1 =ISAMPD=====IMS71Y==*===== (00 BROWSE)====MVIMS =====1									
Target.....	IMS71Y		Time1	Time2	Time3	Time4	Time5		
Status.....	Install	Start Time.....	09:21	09:22	09:24	09:25	09:29		
Update Info		End Time.....	09:22	09:23	09:25	09:29	24:00		
System....	SYSD	--- Samplers---							
User.....	BOLDSK3	Workflow data..	N	Y	Y	Y	Y		
Time.....	09:13	CORT data.....	Y	Y	Y	Y	Y		
Date.....	22MAR2002	Sample Rate...	1	2	3	4	5		
Deleted....	N	Extended I/O..	N	Y	Y	Y	Y		
		Extended Latch	N	N	Y	Y	Y		
		Extended Lock.	N	N	N	Y	Y		
		Workload.....	N	N	N	Y	N		

Figure 233. ISAMPD View

ISAMPD shows detailed information about the status and parameters in effect for a target selected from the ISAMP view. It shows the current values of the parameters. The values shown may not be in effect if the parameters have changed and

- Changes were activated with the INStall command, but not SAVEd

The status of the sampler definition is Install. The installed parameters are in effect.

- Changed sampler parameters were SAVEd, but not INStalled

The status of the sampler definition is Modified. The saved parameters are the current values. Saved changes are activated when they are installed or the PAS (product address space) is restarted.

You can use the ADD primary command from this view to add parameters for another target using this definition as a model. To add a new target sampler definition, you must first enter the following on the command line:

```
COMMAND ==> EDIT
```

The window information line changes from BROWSE to EDIT.

Online help describes how to use these commands. Select the view name with your cursor, press your help key, and then select Actions from the help window.

Controlling Sampler Defaults

If you do not define a sampling for a target, default sampler parameters are used. These parameters specify a sampling period of 24 hours a day at 2 times a second to collect all information for workflow and CORT views. You can change this by adding a sampler definition named DEFAULT. When this definition exists, the parameters specified for it are used instead of the distributed sampler defaults.

To create the sampler DEFAULT target definition, you ADD the definition from the ISAMP or ISAMPD view as follows:

1. COMMAND ===> ISAMP
2. ADD a definition for a target and name it DEFAULT

You can use either the primary command as shown below or the ADD line command if you want to use previously defined target sampler parameters as a model. Enter the following:

- a. COMMAND ===> EDIT

You must be in an EDIT session before you can use either a primary or line command.

- b. COMMAND ===> ADD

The ADD command displays the following ISAMP dialog box:

```
22MAR2002 09: 24: 50 ----- INFORMATION DISPLAY -----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =ISAMP=====IMS71X==*===== (00 EDIT          ) ===MVIMS=====4
|
| ----- ADD PLEXUS SAMPLER DEFINITION -----
| COMMAND ===>
| Target      ===> DEFAULT
| Description ===> SITE SAMPLER DEFAULTS
|
| Start End   WFlow CORT Samp ---Extended---
| Time  Time  Data  Data Rate I/O  Latch Lock  Wkl d
| 1 00: 00 24: 00 YES   YES  2   YES   YES   YES   YES
| 2
| 3
| 4
| 5
|   hh: mm hh: mm - YES/NO-- 1-5 ----- YES/NO-----
|
| Press End to add the definition. Enter CANCEL to leave without adding.
|
```

Figure 234. ISAMP View Dialog Box

Specify a target name of DEFAULT as shown above and change the parameters to those that you want to use as the defaults for all targets. That allows you to change the sampler defaults for all your targets at once and create unique sampler definitions for specific targets. To do this, the BBPARM data set must be shared by all PASs.

Chapter 20. Controlling Samplers

The state of target IMSs is sampled periodically 24 hours a day, 2 times a second by default or as defined by a sets (or sets) of user-specified sampler parameters, as described in Chapter 19, “Setting Target Samplers” on page 285. The samplings are accumulated and used by the workflow and components of response time (CORT) views.

Using operations views, you can

- See if a target is being sampled
- Control the current state of a sampling with stop, start, or quiesce commands

These views are ISAMPOP and ISAMPOPD.

ISAMPOP – Sampler Operations Administration

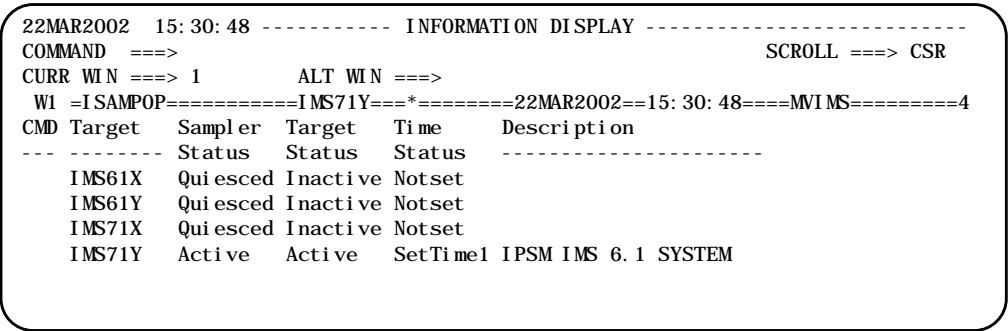


Figure 235. ISAMPOP View

You can select the ISAMPOP view at any time by typing one of the following commands on the command line:

- COMMAND ==> ISAMPOP
- COMMAND ==> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMPOP from the list of ADMIN views.

- COMMAND ==> VIEWS

Select ISAMPOP from the list of views.

From this view, you can use the following line commands to control target sampling:

- START Start sampling the selected IMS target
- STOP Stop sampling the selected IMS target
- Quiesce Put the target sampling in a latent state

Online help describes how to use these commands. Select the view name, press the help key, and then select Actions from the help window.

ISAMPOPD – Sampler Operations Administration Detail

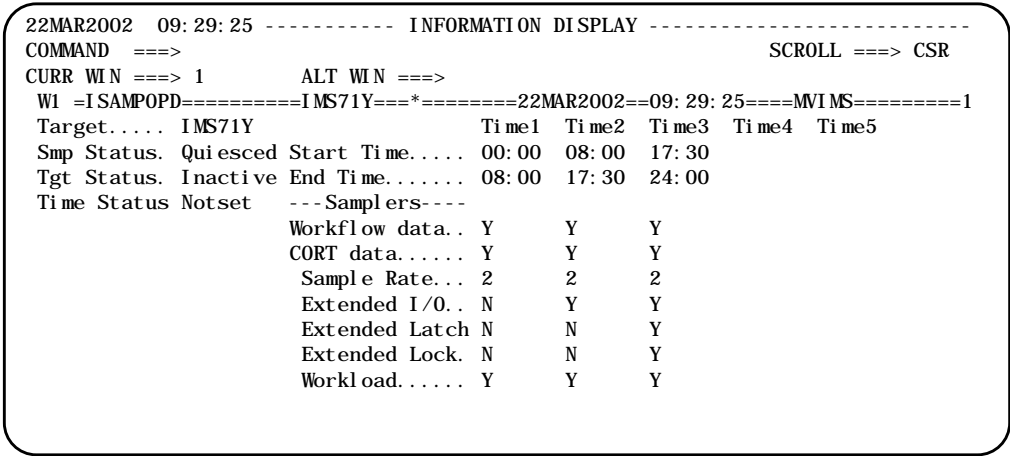


Figure 236. ISAMPOPD View

ISAMPOPD shows detailed information about the status and parameters in effect for a target selected from the ISAMPOP view. It can help you determine when data will be collected for that target.

Chapter 21. Controlling Shared Message Queue Data Collection

Several of the workflow, CQS information, and terminal and user views can display shared queue statistics for IMS systems that use shared message queues.

The ISQUERY parameter in BBPARM member IMFBEX00 is used to control how frequently CQS is queried to refresh the IPSM shared queues data tables. You can use the parameter to control the amount of resources used to collect shared message queues data. Views that use the shared queues data tables will display static values in fields that display message count and message age data until expiration of the refresh period defined with the ISQUERY parameter.

The following is a representation of the ISQUERY format:

ISQUERY=(*x*, *y*, *z*)

- The *x* value controls the refresh rate of message age data in the CQS information views (the ISQ* views)
- The *y* value controls the refresh rate of message count data for shared message queues in non-workflow views
- The *z* value controls the refresh rate of message count fields for shared message queues in workflow views

CQS Information Views with Message Age Fields

The *x* value applies to CQS information views (ISQ*) that show message age data. The *x* value is used

- to specify whether or not message age data will be collected and displayed for shared message queues
- to define the refresh rate (in seconds) for the data in message age fields if such data is collected

If a refresh rate is specified for the message data, no matter how frequently a CQS view is refreshed, message ages reported in the view will not be refreshed until the specified refresh period expires.

The *x* value can be 0 or from 60 through 7200. The default is 60.

A value of zero in the *x* position prevents the collection of message age data for display in the CQS views. When the age data is not being collected, the letters SMQ are displayed in message age fields, rather than message age data.

Note: Because frequent refreshing of message age data can consume a significant amount of processing time and can delay IMS and other CQS activity, if you allow collection of the data, you should try to set the *x* value reasonably high. If you are concerned only with messages older than an hour, for example, you should consider setting the value at high as 3600.

Non-Workflow Views with Message Count Fields

The *y* value applies to non-workflow views that show message count data, such as the CQS information (ISQ*), transaction (ITR*), and user/terminal information (IU*) views. The data in these views is collected on demand in real time. The *y* value is used to

- specify whether or not message count data will be collected and displayed for shared message queues
- define the refresh rate (in seconds) for the data in message count fields if such data is collected

If a refresh rate is specified for the message data, no matter how frequently a view is refreshed, message counts reported in the view will not be refreshed until the specified refresh period expires.

The *y* value can be zero, 5, 10 or 15. The default is 5.

A value of zero in the *y* position prevents the collection of message count data for display in non-workflow views. When the message count data is not being collected, the letters SMQ are displayed in message count fields, rather than message count data.

Workflow Views with Message Count Fields

The *z* value applies only to workload views. The data for workload views is collected continuously by the workflow sampler, which provides realtime and historical data. The *z* value is used to

- specify whether or not message count data will be collected and displayed for shared message queues
- define the refresh rate (in seconds) for the data in message count fields if such data is collected

If a refresh rate is specified for the message data, no matter how frequently a view is refreshed, message counts reported in the view will not be refreshed until the specified refresh period expires.

The *z* value can be 0 or 5. The default is 5.

A value of zero in the *z* position prevents the collection of message count data for display in workflow views. When the message count data is not being collected, the letters SMQ are displayed in message count fields, rather than message count data.

Chapter 22. Securing IPSM Resources

External security managers (ESM), such as CA-ACF2, CA-TOP SECRET, or RACF can be used to protect access to a product and its resources, such as views, view actions or commands, and data. Product resources are identified to your ESM as a resource entity that can be protected so that existing security rules, permits, or profiles can be used.

Using the security resource administration views, you can see the access authorizations that are enabled for the IPSM resources by default. These views are SERDEF and SERDEFE. You can use them to enable, disable, and change security resource definitions. For information about securing resources, see *Implementing Security for MAINVIEW Products*.

SERDEF – Security Resource Definitions

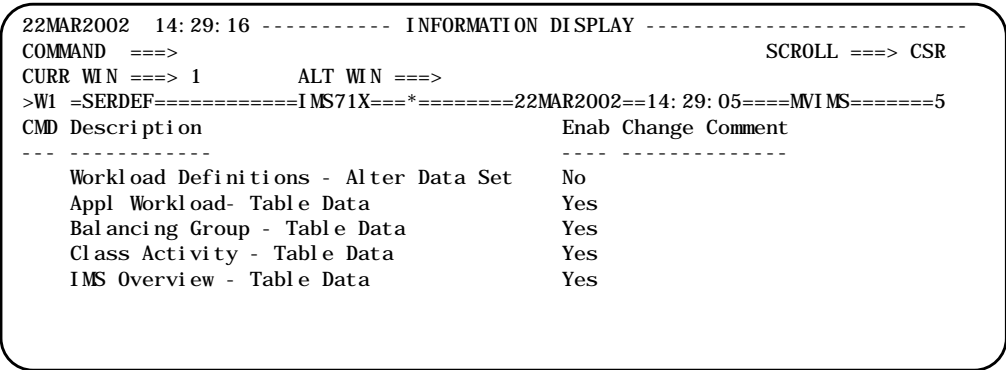


Figure 237. SERDEF View

You can select the SERDEF view at any time by typing one of the following commands on the command line:

- COMMAND ==> SERDEF
- COMMAND ==> VIEWS

Select SERDEF from the list of views presented.

- COMMAND ==> ADMIN

Select SERDEF from the list of views presented in ADMIN. (ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts.)

You can use the SERDEF view to disable or enable resource definitions, or to select a single resource definition to view and change its attributes.

To see online help for SERDEF view or any of its fields, position the cursor on the view name on the window information line, or on any field in the view, and then press the help key. See the *Implementing Security for MAINVIEW Products* manual for a detailed description of how to use this view.

SERDEFE – Security Resource Definition Detail

```
22MAR2002 14:30:29 ----- INFORMATION DISPLAY -----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
>W1 =SERDEF==SERDEFE==IMS71X==*=====22MAR2002==14:29:05====MVIMS=====1
  Res Key... BBF9PA40PURG Desc.... Transaction - Action - Purge
    Enabled... Yes      Comment... *Unchanged*
                        Type.... ACTION
  ESM Info--
    Class.... SBBM      Entity... BBM.&PRODUCT.&CONTEXT.&INTTABLE.&INTACTI
    VolSer... *NONE*    Intent... READ
    LogAuth... Allow    LogFail... Allow
  Substitution Values
    IntTable.. FPA40     ExtTable.. Tran
    IntAction. PURGE     ExtAction. PURGE
    IntActTab. BBFTPA40  Product.. MVIMS
    Parms?... No        Fields?... Yes
  Update Info
    UpdSystem. *NONE*    Mem Suff. 00
    UpdUser... *NONE*    UpdTime.. 14:29:08
    UpdDate... &windate.
  Res Version
    Version... 1         Release.. 1
                        ModLevel.. 0
```

Figure 238. SERDEFE View

SERDEFE shows detailed information about a resource definition selected from the SERDEF view. It shows the class and entity names and other attributes for that definition. To change a definition's attributes, you can use the commands described in online action help or in the *Implementing Security for MAINVIEW Products* manual.

Chapter 23. Viewing a List of BMC Software IMS Products

This chapter explains how to use the IMSplex System Manager (IPSM) IMS product views to display a list of BMC Software performance products that are active in each IMS control region associated with an MVIMS PAS.

The IMS product views

- Provide a list of BMC Software IMS-related products that are active in the same IMS control region as the MVIMS target
- Include online help that describes the products and what each can provide.
- Provide the product release and maintenance level
- Indicate product status

The following IMS product views are provided:

View name	Description
IPRDSUM	BMC Software Products Summary
IPRDDTL	BMC Software Products Detail

Accessing the Product Views

You can access the IMS product views by selecting the Installed Products option on the

- IMS Easy Menus (EZIMS and EZIMSR)
- IMS Fast Menus (EZIFAST and EZIFASTR)
- IMS SSI Menus (EZISSI and EZISSIR)

If you select the Installed Products option on EZIMS, EZIMSR, EZIFAST, or EZIFASTR, you access IPRDDTL view. If you select the option on EZISSI or EZISSIR, you access IPRDSUM view.

You can also display the IMS product views by

- Entering the view name on a command line
- Entering VIEWS on the command line and selecting the view from the list of views
- Entering MAIN on the command line, selecting IMSPRODS, and selecting either of the two product views from IMSPRODS view list

BMC Software Products Summary View

The BMC Software Products Summary view (IPRDSUM) displays a summary of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user. You can hyperlink from the IPRDSUM Count field to access a view that shows every installation for a specific product.

The view displays one row for each installed product, and the Count field shows how many IMS systems have the associated product installed. For each type of product, IPRDSUM shows

- Status of the product
- The product's version, release, and maintenance level
- The product's IMS and OS/390 systems

22MAR2002 12: 11: 22 ----- INFORMATION DISPLAY -----					
COMMAND ==>			SCROLL ==> PAGE		
CURR WIN ==> 1			ALT WIN ==>		
W1 =IPRDSUM=====IMS71X==*=====22MAR2002=====06: 43: 47====MVI MS=====4					
Product		Product	Product	IMS	MVS
Name	Count	Status	Level	Name	Name
AutoOPERATOR for IMS	1	ACTIVE	V6. 1. 00	IMS71X	SJSD
MainView for IMS	1	ACTIVE	V3. 3. 00	IMS71X	SJSD
Q: MANAGER IMS	1	ACTIVE	V2. 3. 01	IMS71X	SJSD
Q: MANAGER IMS EP	1	ACTIVE	V2. 3. 01	IMS71X	SJSD

Figure 239. BMC Software Products Summary View (IPRDSUM)

The help for the Product Name field provides brief product descriptions. For information about the fields on the view, position your cursor on any field and press the help key.

The following hyperlink is provided in the IPRDDTL view.

Hyperlink from	To see
Count	IPRDDTL view, which shows information about each IMS product installation

BMC Software Products Detail View

The BMC Software Products Detail view (IPRDDTL) displays a list of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user.

The view displays one row for each IMS a product is installed on, and for each product installation it shows

- Status of the product
- The product’s version, release, and maintenance level
- The product’s IMS and OS/390 systems

If you access this view by hyperlinking from IPRDSUM, the view displays only information about the product you selected on IPRDSUM. If you access the view by its name, it displays information about all installations of BMC Software IMS products.

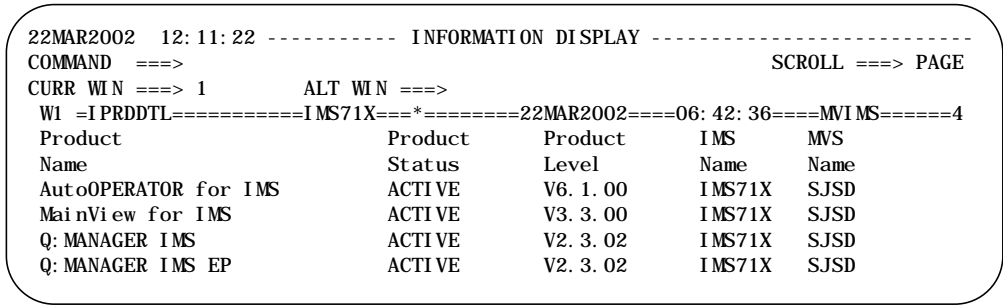


Figure 240. BMC Software Products Detail View (IPRDDTL)

The help for the Product Name field provides brief product descriptions. For information about the fields on the view, position your cursor on any field and press the help key.

Part 6. Glossary and Index

Glossary	301
Index	313

Glossary

This glossary defines BMC Software terminology. Other dictionaries and glossaries can be used in conjunction with this glossary.

Since this glossary pertains to BMC Software-related products, some of the terms defined might not appear in this book.

To help you find the information you need, this glossary uses the following cross-references:

Contrast with	Indicates a term that has a contrary or contradictory meaning.
See	Indicates an entry that is a synonym or contains expanded information.
See also	Indicates an entry that contains related information.

A

action. Defined operation, such as modifying a MAINVIEW window, that is performed in response to a command. *See* object.

active window. Any MAINVIEW window in which data can be refreshed. *See* alternate window, current window, window.

administrative view. Display from which a product's management tasks are performed, such as the DSLIST view for managing historical data sets. *See* view.

ALT WIN field. Input field that allows you to specify the window identifier for an alternate window where the results of a hyperlink are displayed. *See* alternate window.

Alternate Access. *See* MAINVIEW Alternate Access.

alternate form. View requested through the FORM command that changes the format of a previously displayed view to show related information. *See also* form, query.

alternate window. (1) Window that is specifically selected to display the results of a hyperlink. (2) Window whose identifier is defined to the ALT WIN field. *Contrast with* current window. *See* active window, window, ALT WIN field.

analyzer. (1) Online display that presents a snapshot of status and activity data and indicates problem areas. (2) Component of CMF MONITOR. *See* CMF MONITOR Analyzer.

application. (1) Program that performs a specific set of tasks within a MAINVIEW product. (2) In MAINVIEW VistaPoint, combination of workloads to enable display of their transaction performance data in a single view.

application trace. *See* trace.

ASCH workload. Workload comprising Advanced Program-to-Program Communication (APPC) address spaces.

AutoCustomization. Online facility for customizing the installation of products. AutoCustomization provides an ISPF panel interface that both presents customization steps in sequence and provides current status information about the progress of the installation.

automatic screen update. Usage mode wherein the currently displayed screen is refreshed automatically with new data at an interval you specify. Invoked by the ASU command.

B

batch workload. Workload consisting of address spaces running batch jobs.

BBI. Basic architecture that distributes work between workstations and multiple OS/390 targets for BMC Software MAINVIEW products.

BBI-SS PAS. *See* BBI subsystem product address space.

BBI subsystem product address space (BBI-SS PAS). OS/390 subsystem address space that manages communication between local and remote systems and that contains one or more of the following products:

- Command MQ for S/390
- MAINVIEW AutoOPERATOR
- MAINVIEW for CICS
- MAINVIEW for DB2
- MAINVIEW for DBCTL
- MAINVIEW for IMS Online
- MAINVIEW for MQSeries
- MAINVIEW SRM
- MAINVIEW VistaPoint (for CICS, DB2, DBCTL, and IMS workloads)

BBPARM. *See* parameter library.

BBPROC. *See* procedure library.

BBPROF. *See* profile library.

BBSAMP. *See* sample library.

BBV. *See* MAINVIEW Alternate Access.

BBXS. BMC Software Subsystem Services. Common set of service routines loaded into common storage and used by several BMC Software MAINVIEW products.

border. Visual indication of the boundaries of a window.

bottleneck analysis. Process of determining which resources have insufficient capacity to provide acceptable service levels and that therefore can cause performance problems.

C

CA-Disk. Data management system by Computer Associates that replaced the DMS product.

CAS. Coordinating address space. One of the address spaces used by the MAINVIEW windows environment architecture. The CAS supplies common services and enables communication between linked systems. Each OS/390 or z/OS image requires a separate CAS. Cross-system communication is established through the CAS using VTAM and XCF communication links.

CFMON. *See* coupling facility monitoring.

chart. Display format for graphical data. *See also* graph.

CICSplex. User-defined set of one or more CICS systems that are controlled and managed as a single functional entity.

CMF MONITOR. Comprehensive Management Facility MONITOR. Product that measures and reports on all critical system resources, such as CPU, channel, and device usage; memory, paging, and swapping activity; and workload performance.

CMF MONITOR Analyzer. Batch component of CMF MONITOR that reads the SMF user and 70 series records created by the CMF MONITOR Extractor and/or the RMF Extractor and formats them into printed system performance reports.

CMF MONITOR Extractor. Component of CMF that collects performance statistics for CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390, and RMF postprocessor. *See* CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390.

CMF MONITOR Online. Component of CMF that uses the MAINVIEW window interface to present data on all address spaces, their use of various system resources, and the delays that each address space incurs while waiting for access to these resources. *See* CMF MONITOR, MAINVIEW for OS/390.

CMF Type 79 API. Application programming interface, provided by CMF, that provides access to MAINVIEW SMF-type 79 records.

CMFMON. Component of CMF MONITOR that simplifies online retrieval of information about system hardware and application performance and creates MAINVIEW SMF-type 79 records.

The CMFMON *online facility* can be used to view data in one or more formatted screens.

The CMFMON *write facility* can be used to write collected data as MAINVIEW SMF-type 79 records to an SMF or sequential data set.

CMRDETL. MAINVIEW for CICS data set that stores detail transaction records (type 6E) and abend records (type 6D). Detail records are logged for each successful transaction. Abend records are written when an abend occurs. Both records have the same format when stored on CMRDETL.

CMRSTATS. MAINVIEW for CICS data set that stores both CICS operational statistic records, at five-minute intervals, and other records, at intervals defined by parameters specified during customization (using CMRSOPT).

column. Vertical component of a view or display, typically containing fields of the same type of information, that varies by the objects associated in each row.

collection interval. Length of time data is collected. *See also* delta mode, total mode.

command delimiter. Special character, usually a ; (semicolon), used to stack commands typed concurrently on the COMMAND line for sequential execution.

COMMAND line. Line in the control area of the display screen where primary commands can be typed. *Contrast with* line command column.

Command MQ Automation D/S. Command MQ agents, which provide local proactive monitoring for both MQSeries and MSMQ (Microsoft message queue manager). The Command MQ agents operate at the local node level where they continue to perform functions regardless of the availability of the MQM (message queue manager) network. Functionality includes automatic monitoring and restarts of channels, queue managers, queues and command servers. In cases where automated recovery is not possible, the agents transport critical alert information to a central console.

Command MQ Automation S/390. Command MQ component, which monitors the MQM (message queue manager) networks and intercedes to perform corrective actions when problems arise. Solutions include:

- Dead-Letter Queue management
- System Queue Archival
- Service Interval Performance solutions
- Channel Availability

These solutions help ensure immediate relief to some of the most pressing MQM operations and performance problems.

Command MQ for D/S. Command MQ for D/S utilizes a true client/server architecture and employs resident agents to provide configuration, administration, performance monitoring and operations management for the MQM (message queue manager) network.

Command MQ for S/390. See MAINVIEW for MQSeries.

COMMON STORAGE MONITOR. Component of MAINVIEW for OS/390 that monitors usage and reconfigures OS/390 or z/OS common storage blocks.

composite workload. Workload made up of a WLM workload or other workloads, which are called *constituent workloads*.

constituent workload. Member of a composite workload. Constituent workloads in a composite usually belong to a single workload class, but sometimes are mixed.

contention. Occurs when there are more requests for service than there are servers available.

context. In a Plex Manager view, field that contains the name of a target or group of targets specified with the CONTEXT command. See scope, service point, SSI context, target context.

CONTEXT command. Specifies either a MAINVIEW product and a specific target for that product (see target context) or a MAINVIEW product and a name representing one or more targets (see *SSI context*) for that product.

control statement. (1) Statement that interrupts a sequence of instructions and transfers control to another part of the program. (2) Statement that names samplers and other parameters that configure the MAINVIEW components to perform specified functions. (3) In CMF MONITOR, statement in a parameter library member used to identify a sampler in the extractor or a report in the analyzer, or to describe either component's processing requirements to the operating system.

coupling facility monitoring (CFMON). Coupling facility views that monitor the activity of your system's coupling facilities.

current data. Data that reflects the system in its current state. The two types of current data are realtime data and interval data. *Contrast with* historical data. See also interval data and realtime data.

current window. In the MAINVIEW window environment, window where the main dialog with the application takes place. The current window is used as the default window destination for commands issued on the COMMAND line when no window number is specified. *Contrast with* alternate window. See active window, window.

D

DASD. Direct Access Storage Device. (1) A device with rotating recording surfaces that provides immediate access to stored data. (2) Any device that responds to a DASD program.

data collector. Program that belongs to a MAINVIEW product and that collects data from various sources and stores the data in records used by views. For example, MAINVIEW for OS/390 data collectors obtain data from OS/390 or z/OS services, OS/390 or z/OS control blocks, CMF MONITOR

Extractor control blocks, and other sources. *Contrast with* extractor.

delta mode. (1) In MAINVIEW for DB2 analyzer displays, difference between the value sampled at the start of the current statistics interval and the value sampled by the current analyzer request. See also *statistics interval*. (2) In CMFMON, usage mode wherein certain columns of data reflect the difference in values between one sample cycle and the next. Invoked by the DELTA ON command. See also collection interval, sample cycle, total mode.

DFSMS. Data Facility Storage Management System. Data management, backup, and HSM software from IBM for OS/390 or z/OS mainframes.

DMR. See MAINVIEW for DB2.

DMS. Data Management System. See CA-Disk.

DMS2HSM. See MAINVIEW SRM DMS2HSM.

DSO. Data Set Optimizer. CMF MONITOR Extractor component that uses CMF MONITOR Extractor data to produce reports specifying the optimal ordering of data sets on moveable head devices.

E

EasyHSM. See MAINVIEW SRM EasyHSM.

EasyPOOL. See MAINVIEW SRM EasyPOOL.

EasySMS. See MAINVIEW SRM EasySMS.

element. (1) Data component of a data collector record, shown in a view as a field. (2) Internal value of a field in a view, used in product functions.

element help. Online help for a field in a view. The preferred term is *field help*.

Enterprise Storage Automation. See MAINVIEW SRM Enterprise Storage Automation.

event. A message issued by Enterprise Storage Automation. User-defined storage occurrences generate events in the form of messages. These events provide an early warning system for storage problems and are routed to user-specified destinations for central viewing and management.

Event Collector. Component for MAINVIEW for IMS Online, MAINVIEW for IMS Offline, and MAINVIEW for DBCTL that collects data about events in the IMS environment. This data is required for Workload Monitor and optional for Workload Analyzer (except for the workload trace service). This data also is recorded as transaction records (X'FA') and program records (X'F9') on the IMS system log for later use by the MAINVIEW for IMS Offline components: Performance Reporter and Transaction Accountant.

expand. Predefined link from one display to a related display. See also hyperlink.

extractor. Program that collects data from various sources and keeps the data control blocks to be written as records. Extractors obtain data from services, control blocks, and other sources. *Contrast with* data collector.

extractor interval. *See* collection interval.

F

fast path. Predefined link between one screen and another. To use the fast path, place the cursor on a single value in a field and press Enter. The resulting screen displays more detailed information about the selected value. *See also* hyperlink.

field. Group of character positions within a screen or report used to type or display specific information.

field help. Online help describing the purpose or contents of a field on a screen. To display field help, place the cursor anywhere in a field and press PF1 (HELP). In some products, field help is accessible from the screen help that is displayed when you press PF1.

filter. Selection criteria used to limit the number of rows displayed in a view. Data that does not meet the selection criteria is not displayed. A filter is composed of an element, an operator, and an operand (a number or character string). Filters can be implemented in view customization, through the PARM/QPARM commands, or through the Where/QWhere commands. Filters are established against elements of data.

fire. The term used to indicate that an event has triggered an action. In MAINVIEW AutoOPERATOR, when a rule selection criteria matches an incoming event and *fires*, the user-specified automation actions are performed. This process is also called *handling* the event.

fixed field. Field that remains stationary at the left margin of a screen that is scrolled either right or left.

FOCAL POINT. MAINVIEW product that displays a summary of key performance indicators across systems, sites, and applications from a single terminal.

form. One of two constituent parts of a view; the other is query. A form defines how the data is presented; a query identifies the data required for the view. *See also* query, view.

full-screen mode. Display of a MAINVIEW product application or service on the entire screen. There is no window information line. *Contrast with* windows mode.

G

global command. Any MAINVIEW window interface command that can affect all windows in the window area of a MAINVIEW display.

graph. Graphical display of data that you select from a MAINVIEW window environment view. *See also* chart.

H

hilevel. For MAINVIEW products, high-level data set qualifier required by a site's naming conventions.

historical data. (1) Data that reflects the system as it existed at the end of a past recording interval or the duration of several intervals. (2) Any data stored in the historical database and retrieved using the TIME command. *Contrast with* current data, interval data and realtime data.

historical database. Collection of performance data written at the end of each installation-defined recording interval and containing up to 100 VSAM clusters. Data is extracted from the historical database with the TIME command. *See* historical data.

historical data set. In MAINVIEW products that display historical data, VSAM cluster file in which data is recorded at regular intervals.

HSM. (Hierarchical Storage Management) Automatic movement of files from hard disk to slower, less-expensive storage media. The typical hierarchy is from magnetic disk to optical disk to tape.

hyperlink. (1) Preset field in a view or an EXPAND line on a display that permits you to

- Access cursor-sensitive help
- Issue commands
- Link to another view or display

The transfer can be either within a single product or to a related display/view in a different BMC Software product. Generally, hyperlinked fields are highlighted. (2) Cursor-activated short path from a topic or term in online help to related information. *See also* fast path.

I

Image log. Collection of screen-display records. Image logs can be created for both the BBI-SS PAS and the BBI terminal session (TS).

The BBI-SS PAS Image log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to the BBI-SS PAS Image log stops when both data sets are filled and the first data set is not processed by the archive program.

The TS Image log is a single data set that wraps around when full.

IMSplex System Manager (IPSM). MVIMS Online and MVDBC service that provides Single System Image views of resources and bottlenecks for applications across one or more IMS regions and systems.

interval data. Cumulative data collected during a collection interval. Intervals usually last from 15 to 30 minutes depending on how the recording interval is specified during product customization. *Contrast with* historical data.

Note: If change is made to the workloads, a new interval will be started.

See also current data and realtime data.

InTune. Product for improving application program performance. It monitors the program and provides information used to reduce bottlenecks and delays.

IRUF. IMS Resource Utilization File (IRUF). IRUFs can be either detail (one event, one record) or summarized (more than one event, one record). A detail IRUF is created by processing the IMS system log through a program called IMFLEDIT. A summarized IRUF is created by processing one or more detail IRUFs, one or more summarized IRUFs, or a combination of both, through a sort program and the TASCOSTR program.

J

job activity view. Report about address space consumption of resources. See view.

journal. Special-purpose data set that stores the chronological records of operator and system actions.

Journal log. Collection of messages. Journal logs are created for both the BBI-SS PAS and the BBI terminal session (TS).

The BBI-SS PAS Journal log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to the BBI-SS PAS Journal log stops when both data sets are filled and the first data set is not being processed by the archive program.

The TS Journal log is a single data set that wraps around when full.

L

line command. Command that you type in the line command column in a view or display. Line commands initiate actions that apply to the data displayed in that particular row.

line command column. Command input column on the left side of a view or display. *Contrast with* COMMAND line.

Log Edit. In the MAINVIEW for IMS Offline program named IMFLEDIT, function that extracts transaction (X'FA') and program (X'F9') records from the IMS system log. IMFLEDIT also extracts certain records that were recorded on the system log by IMS. IMFLEDIT then formats the records into a file called the IMS Resource Utilization File (IRUF).

M

MAINVIEW. BMC Software integrated systems management architecture.

MAINVIEW Alarm Manager. In conjunction with other MAINVIEW products, notifies you when an exception condition occurs. MAINVIEW Alarm Manager is capable of monitoring multiple systems simultaneously, which means that MAINVIEW Alarm Manager installed on one system keeps track of your entire sysplex. You can then display a single view that show exceptions for all MAINVIEW performance monitors within your OS/390 or z/OS enterprise.

MAINVIEW Alternate Access. Enables MAINVIEW products to be used without TSO by providing access through EXCP and VTAM interfaces.

MAINVIEW Application Program Interface. REXX- or CLIST-based, callable interface that allows MAINVIEW AutoOPERATOR EXECs to access MAINVIEW monitor product view data.

MAINVIEW AutoOPERATOR. Product that uses tools, techniques, and facilities to automate routine operator tasks and provide online performance monitoring, and that achieves high availability through error minimization, improved productivity, and problem prediction and prevention.

MAINVIEW control area. In the MAINVIEW window environment, first three lines at the top of the view containing the window information line and the COMMAND, SCROLL, CURR WIN, and ALT WIN lines. The control area cannot be customized and is part of the information display. *Contrast with* MAINVIEW display area, MAINVIEW window area.

MAINVIEW display area. See MAINVIEW window area.

MAINVIEW Explorer. Product that provides access to MAINVIEW products from a Web browser running under Windows. MAINVIEW Explorer replaces MAINVIEW Desktop.

MAINVIEW for CICS. Product (formerly MV MANAGER for CICS) that provides realtime application performance analysis and monitoring for CICS system management.

MAINVIEW for DB2. Product (formerly MV MANAGER for DB2) that provides realtime and historical application performance analysis and monitoring for DB2 subsystem management.

MAINVIEW for DBCTL. Product (formerly MV MANAGER for DBCTL) that provides realtime application performance analysis and monitoring for DBCTL management.

MAINVIEW for IMS (MVIMS) Offline. Product with a Performance Reporter component that organizes data and prints reports used to analyze IMS performance and a Transaction Accountant component that produces cost accounting and user charge-back records and reports.

MAINVIEW for IMS (MVIMS) Online. Product that provides realtime application performance analysis and monitoring for IMS management.

MAINVIEW for IP. Product that monitors OS/390 mission-critical application performance as it relates to IP stack usage. Collected data includes: connections, response time statistics, application availability, application throughput, and IP configuration.

MAINVIEW for Linux-Servers. Product that allows you to monitor the performance of your Linux systems from the MAINVIEW windows interface.

MAINVIEW for MQSeries. Delivers comprehensive capabilities for configuration, administration, performance monitoring and operations management for an entire MQM (message queue manager) network.

MAINVIEW for OS/390. System management application (known as MAINVIEW for MVS prior to version 2.5). Built upon the MAINVIEW window environment architecture, it uses the window interface to provide access to system performance data and other functions necessary in the overall management of an enterprise.

MAINVIEW for UNIX System Services. System management application that allows you to monitor the performance of the UNIX System Services from a MAINVIEW window interface.

MAINVIEW for VTAM. Product that displays application performance data by application, transaction ID, and LU name. This collected data includes: connections, response time statistics, application availability, and application throughput.

MAINVIEW for WebSphere. Product that provides Web monitoring and management for applications integrated with IBM WebSphere Application Server for OS/390 or z/OS.

MAINVIEW Selection Menu. ISPF selection panel that provides access to all MAINVIEW windows-mode and full-screen mode products.

MAINVIEW SRM. *See* MAINVIEW Storage Resource Manager (SRM).

MAINVIEW SRM DMS2HSM. Product that facilitates the conversion of CA-Disk, formerly known as DMS, to HSM.

MAINVIEW SRM EasyHSM. Product that provides online monitoring and reporting to help storage managers use DFHSM efficiently.

MAINVIEW SRM EasyPOOL. Product that provides control over data set allocation and enforcement of allocation and naming standards. EasyPOOL functions operate at the operating system level to intercept normal job processing, thus providing services without any JCL changes.

MAINVIEW SRM EasySMS. Product that provides tools that aid in the conversion to DFSMS and provides enhancement to the DFSMS environment after implementation. EasySMS consists of the EasyACS functions, the SMSACSTE function, and the Monitoring and Positioning Facility.

MAINVIEW SRM Enterprise Storage Automation. Product that delivers powerful event generation and storage automation technology across the storage enterprise. Used in conjunction with MAINVIEW AutoOPERATOR, automated solutions to perform pool, volume, application, or data set-level manipulation can be created and used in response to any condition or invoked to perform ad hoc requests

MAINVIEW SRM SG-Auto. Product that provides early warning notification of storage anomalies and automated responses to those anomalies based on conditions in the storage subsystem.

MAINVIEW SRM SG-Control. Product that provides real-time monitoring, budgeting, and control of DASD space utilization.

MAINVIEW SRM StopX37/II. Product that provides enhancements to OS/390 or z/OS space management, reducing the incidence of space-related processing problems. The StopX37/II functions operate at the system level to intercept abend conditions or standards violations, thus providing services without any JCL changes.

MAINVIEW SRM StorageGUARD. Product that monitors and reports on DASD consumption and provides historical views to help control current and future DASD usage.

MAINVIEW Storage Resource Manager (SRM). Suite of products that assists in all phases of OS/390 or z/OS storage management. MAINVIEW SRM consists of products that perform automation, reporting, trend analysis, and error correction for storage management.

MAINVIEW SYSPROG Services. *See* SYSPROG Services.

MAINVIEW VistaPoint. Product that provides enterprise-wide views of performance. Application and workload views are available for CICS, DB2, DBCTL, IMS, and OS/390. Data is summarized at the level of detail needed; for example, views can be for a single target, an OS/390 or z/OS image, or an entire enterprise.

MAINVIEW window area. Portion of the information display that is not the control area and in which views are displayed and windows opened. It includes all but the first three lines of the information display. *Contrast with* MAINVIEW control area.

monitor. Online service that measures resources or workloads at user-defined intervals and issues warnings when user-defined thresholds are exceeded.

Multi-Level Automation (MLA). The user-defined, multiple step process in Enterprise Storage Automation that implements solutions in a tiered approach, where solutions are invoked one after another until the condition is resolved.

MVALARM. *See* MAINVIEW Alarm Manager.

MVAPI. *See* MAINVIEW Application Program Interface.

MVCICS. *See* MAINVIEW for CICS.

MVDB2. *See* MAINVIEW for DB2.

MVDBC. *See* MAINVIEW for DBCTL.

MVIMS. *See* MAINVIEW for IMS.

MVLNX. *See* MAINVIEW for Linux-Servers.

MVMQ. *See* MAINVIEW for MQSeries.

MVMVS. *See* MAINVIEW for OS/390.

MVScope. MAINVIEW for OS/390 application that traces both CPU usage down to the CSECT level and I/O usage down to the channel program level.

MVSRM. *See* MAINVIEW Storage Resource Manager (SRM).

MVSRMHSM. *See* MAINVIEW SRM EasyHSM.

MVSRMSGC. *See* MAINVIEW SRM SG-Control.

MVSRMSGD. *See* MAINVIEW SRM StorageGUARD.

MVSRMSGP. *See* MAINVIEW SRM StorageGUARD.

MVVP. *See* MAINVIEW VistaPoint.

MVVTAM. *See* MAINVIEW for VTAM.

MVWEB. *See* MAINVIEW for WebSphere.

N

nested help. Multiple layers of help pop-up windows. Each successive layer is accessed by clicking a hyperlink from the previous layer.

O

object. Anything you can manipulate as a single unit. MAINVIEW objects can be any of the following: product, secondary window, view, row, column, or field.

You can issue an action against an object by issuing a line command in the line command column to the left of the object. *See* action.

OMVS workload. Workload consisting of OS/390 OpenEdition address spaces.

online help. Help information that is accessible online.

OS/390 and z/OS Installer. BMC Software common installation system for mainframe products.

OS/390 product address space (PAS). Address space containing OS/390 or z/OS data collectors, including the CMF MONITOR Extractor. Used by the MAINVIEW for OS/390, MAINVIEW for Unix System Services, and CMF MONITOR products. *See* PAS.

P

parameter library. Data set consisting of members that contain parameters for specific MAINVIEW products or a support component. There can be several versions:

- The distributed parameter library, called BBPARM
- A site-specific parameter library or libraries

These can be

- A library created by AutoCustomization, called UBBPARM
- A library created manually, with a unique name

PAS. Product address space. Used by the MAINVIEW products. Contains data collectors and other product functions. *See* OS/390 product address space (PAS), BBI subsystem product address space (BBI-SS PAS).

performance group workload. Collection of address spaced defined to OS/390 or z/OS. If you are running OS/390 or z/OS with WLM in compatibility mode, MAINVIEW for OS/390 creates a performance group workload instead of a service class. *See* service class workload, workload definition.

PERFORMANCE MANAGER. MAINVIEW for CICS online service for monitoring and managing current performance of CICS regions.

Performance Reporter (MVIMS Offline). MVIMS Offline component that organizes data and prints reports that can be used to analyze IMS performance.

Performance Reporter. Product component that generates offline batch reports. The following products can generate these reports:

- MAINVIEW for DB2
- MAINVIEW for CICS

Plex Manager. Product through which cross-system communication, MAINVIEW security, and an SSI context are established and controlled. Plex Manager is shipped with MAINVIEW window environment products as part of the coordinating address space (CAS) and is accessible as a menu option from the MAINVIEW Selection Menu.

PRGP workload. In MVS/SP 5.0 or earlier, or in compatibility mode in MVS/SP 5.1 or later, composite of service classes. MAINVIEW for OS/390 creates a performance group workload for each performance group defined in the current IEAIPS.xx member.

procedure library. Data set consisting of members that contain executable procedures used by MAINVIEW AutoOPERATOR. These procedures are execute command lists (EXECs) that automate site functions. There can be several versions:

- The distributed parameter library, called BBPROC
- A site-specific parameter library or libraries

These can be

- A library created by AutoCustomization, called UBBPROC
- A library created manually, with a unique name

The site-created EXECs can be either user-written or customized MAINVIEW AutoOPERATOR-supplied EXECs from BBPROC.

product address space. *See* PAS.

profile library. Data set consisting of members that contain profile information and cycle refresh definitions for a terminal session connected to a BBI-SS PAS. Other members are dynamically created by MAINVIEW applications. There can be several versions:

- The distributed profile library, called BBPROF
- A site-specific profile library or libraries

These can be

- A library created by AutoCustomization, called SBBPROF
- A library created manually, with a unique name

The site library is a common profile shared by all site users. The terminal session CLIST creates a user profile automatically if one does not exist; it is called userid.BBPROF, where userid is your logon ID. User profile libraries allow each user to specify unique PF keys, CYCLE commands, target system defaults, a Primary Option Menu, and a unique set of application profiles.

Q

query. One of two constituent parts of a view; the other is form. A query defines the data for a view; a form defines the display format. *See also* form, view.

R

realtime data. Performance data as it exists at the moment of inquiry. Realtime data is recorded during the smallest unit of time for data collection. *Contrast with* historical data. *See also* current data and interval data.

Resource Analyzer. Online realtime displays used to analyze IMS resources and determine which are affected by specific workload problems.

Resource Monitor. Online data collection services used to monitor IMS resources and issue warnings when defined utilization thresholds are exceeded.

row. (1) Horizontal component of a view or display comprising all the fields pertaining to a single device, address space, user, etc. (2) Horizontal component of a DB2 table consisting of a sequence of values, one for each column of the table.

RxD2. Product that provides access to DB2 from REXX. It provides tools to query the DB2 catalog, issue dynamic SQL, test DB2 applications, analyze EXPLAIN data, generate DDL or DB2 utility JCL, edit DB2 table spaces, perform security administration, and much more.

S

sample cycle. Time between data samples.

For the CMF MONITOR Extractor, this is the time specified in the extractor control statements (usually 1 to 5 seconds).

For realtime data, the cycle is not fixed. Data is sampled each time you press Enter.

sample library. Data set consisting of members each of which contains one of the following:

- Sample JCL that can be edited to perform specific functions
- A macro that is referenced in the assembly of user-written services
- A sample user exit routine

There can be several versions:

- The distributed sample library, called BBSAMP
- A site-specific sample library or libraries

These can be

- A library created by AutoCustomization, called UBBSAMP
- A library created manually, with a unique name

sampler. Program that monitors a specific aspect of system performance. Includes utilization thresholds used by the Exception Monitor. The CMF MONITOR Extractor contains samplers.

SBBPROF. *See* profile library.

scope. Subset of an SSI context. The scope could be all the data for the context or a subset of data within the context. It is user- or site-defined. *See* SSI context, target.

screen definition. Configuration of one or more views that have been stored with the SAVEScr command and assigned a unique name. A screen includes the layout of the windows and the view, context, system, and product active in each window.

selection view. In MAINVIEW products, view displaying a list of available views.

service class workload. Collection of address spaces defined to OS/390 or z/OS. If you are running Workload Manager (WLM) in goal mode, MAINVIEW for OS/390 creates a service class workload for each service class that you define through WLM definition dialogs.

If you are running MVS 4.3 or earlier, or MVS/SP 5.1 or later with WLM in compatibility mode, MVS creates a performance group workload instead of a service class. *See* performance group workload.

service objective. Workload performance goal, specified in terms of response time for TSO workloads or turnaround time for batch workloads. Performance group workloads can be measured by either objective. Composite workload service objectives consist of user-defined weighting factors assigned to each constituent workload. For compatibility mode, neither OS/390 nor z/OS provides any way to measure service.

service point. Specification, to MAINVIEW, of the services required to enable a specific product. Services can be actions, selectors, or views. Each target (for example, CICS, DB2, or IMS) has its own service point.

The PLEX view lists all the defined service points known to the CAS to which the terminal session is connected.

service request block (SRB). Control block that represents a routine to be dispatched. SRB mode routines generally perform work for the operating system at a high priority. An SRB is similar to a task control block (TCB) in that it identifies a unit of work to the system. *See also* task control block.

service select code. Code entered to invoke analyzers, monitors, and general services. This code is also the name of the individual service.

session. Total period of time an address space has been active. A session begins when monitoring can be performed. If the product address space (PAS) starts after the job, the session starts with the PAS.

SG-Auto. *See* MAINVIEW SRM SG-Auto.

SG-Control. *See* MAINVIEW SRM SG-Control.

single system image (SSI). Feature of the MAINVIEW window environment architecture where you can view and perform actions on multiple OS/390 systems as though they were a single system. The rows of a single tabular view can contain rows from different OS/390 or z/OS images.

Skeleton Tailoring Facility. A facility in MAINVIEW AutoOPERATOR that allows skeleton JCL to be used during job submission. Skeleton JCL can contain variables within the JCL statements to be substituted with data values at job submission time. Directive statements can be used in the skeleton JCL to cause the repetition of a set of skeleton statements. This facility functions similar to the TSO skeleton tailoring facility.

SRB. *See* service request block.

SSI. *See* single system image.

SSI context. Name created to represent one or more targets for a given product. *See* context, target.

started task workload. Address spaces running jobs that were initiated programmatically.

statistics interval. For MAINVIEW for DB2, cumulative count within a predefined interval (30-minute default set by the DB2STATS parameter in the distributed BBPARM member BBIISP00) for an analyzer service DELTA or RATE display. Specifying the DELTA parameter displays the current value as the difference between the value sampled by the current analyzer request and the value sampled at the start of the current interval. Specifying the RATE parameter displays the current value by minute (DELTA divided by the number of elapsed minutes).

stem variables. A REXX facility, supported in MAINVIEW AutoOPERATOR REXX EXECs and the Skeleton Tailoring Facility, where variable names end with a period followed by a

number, such as &POOL.1. This configuration allows each variable to actually represent a table or array of data, with the zero variable containing the number of entries in the array. For example, &POOL.0 = 5 would indicate variables &POOL.1 through &POOL.5 exist.

StopX37/II. *See* MAINVIEW SRM StopX37/II.

StorageGUARD. *See* MAINVIEW SRM StorageGUARD.

summary view. View created from a tabular view using the Summarize option in view customization. A summary view compresses several rows of data into a single row based on the summarize criteria.

SYSPROG services. Component of MAINVIEW for OS/390. Over 100 services that detect, diagnose, and correct OS/390 or z/OS system problems as they occur. Accessible from the OS/390 Performance and Control Main Menu. Note that this component is also available as a stand-alone product MAINVIEW SYSPROG Services.

system resource. *See* object.

T

target. Entity monitored by one or more MAINVIEW products, such as an OS/390 or z/OS image, an IMS or DB2 subsystem, a CICS region, or related workloads across systems. *See* context, scope, SSI context.

target context. Single target/product combination. *See* context.

TASCOSTR. MAINVIEW for IMS Offline program that summarizes detail and summary IMS Resource Utilization Files (IRUFs) to be used as input to the offline components.

task control block (TCB). Address space-specific control block that represents a unit of work that is dispatched in the address space in which it was created. *See also* service request block.

TCB. *See* task control block.

terminal session (TS). Single point of control for MAINVIEW products, allowing data manipulation and data display and providing other terminal user services for MAINVIEW products. The terminal session runs in a user address space (either a TSO address space or a standalone address space for EXCP/VTAM access).

TDIR. *See* trace log directory.

threshold. Specified value used to determine whether the data in a field meets specific criteria.

TLDS. *See* trace log data set.

total mode. Usage mode in CMFMON wherein certain columns of data reflect the cumulative value between collection intervals. Invoked by the DELTA OFF command. *See also* collection interval, delta mode.

trace. (1) Record of a series of events chronologically listed as they occur. (2) Online data collection and display services that track transaction activity through DB2, IMS, or CICS.

trace log data set (TLDS). Single or multiple external VSAM data sets containing summary or detail trace data for later viewing or printing. The trace log(s) can be defined as needed or dynamically allocated by the BBI-SS PAS. Each trace request is assigned its own trace log data set(s).

trace log directory (TDIR). VSAM linear data set containing one entry for each trace log data set. Each entry indicates the date and time of data set creation, the current status of the data set, the trace target, and other related information.

transaction. Specific set of input data that initiates a predefined process or job.

Transaction Accountant. MVIMS Offline component that produces cost accounting and user charge-back records and reports.

TS. *See* terminal session.

TSO workload. Workload that consists of address spaces running TSO sessions.

U

UAS. *See* user address space.

UBBPARM. *See* parameter library.

UBBPROC. *See* procedure library.

UBBSAMP. *See* sample library.

user address space. Runs a MAINVIEW terminal session (TS) in TSO, VTAM, or EXCP mode.

User BBPROF. *See* profile library.

V

view. Formatted data within a MAINVIEW window, acquired from a product as a result of a view command or action. A view consists of two parts: query and form. *See also* form, job activity view, query.

view definition. Meaning of data that appears online, including source of data, selection criteria for data field inclusion and placement, data format, summarization, context, product, view name, hyperlink fields, and threshold conditions.

view command. Name of a view that you type on the COMMAND line to display that view.

view command stack. Internal stack of up to 10 queries. For each command, the stack contains the filter parameters, sort order, context, product, and timeframe that accompany the view.

view help. Online help describing the purpose of a view. To display view help, place the cursor on the view name on the window information line and press PF1 (HELP).

W

window. Area of the MAINVIEW screen in which views and resources are presented. A window has visible boundaries and can be smaller than or equal in size to the MAINVIEW window area. *See* active window, alternate window, current window, MAINVIEW window area.

window information line. Top border of a window. Shows the window identifier, the name of the view displayed in the window, the system, the scope, the product reflected by the window, and the timeframe for which the data in the window is relevant. *See also* window status field.

window number. Sequential number assigned by MAINVIEW to each window when it is opened. The window number is the second character in the window status field. *See also* window status field.

window status. One-character letter in the window status field that indicates when a window is ready to receive commands, is busy processing commands, is not to be updated, or contains no data. It also indicates when an error has occurred in a window. The window status is the first character in the window status field. *See also* window information line, window status field.

window status field. Field on the window information line that shows the current status and assigned number of the window. *See also* window number, window status.

windows mode. Display of one or more MAINVIEW product views on a screen that can be divided into a maximum of 20 windows. A window information line defines the top border of each window. *Contrast with* full-screen mode.

WLM workload. In goal mode in MVS/SP 5.1 and later, a composite of service classes. MAINVIEW for OS/390 creates a workload for each WLM workload defined in the active service policy.

workflow. Measure of system activity that indicates how efficiently system resources are serving the jobs in a workload.

workload. (1) Systematic grouping of units of work (e.g., address spaces, CICS transactions, IMS transactions) according to classification criteria established by a system administrator. (2) In OS/390 or z/OS, a group of service classes within a service definition.

workload activity view. Tracks workload activity as the workload accesses system resources. A workload activity view measures workload activity in terms of resource consumption and how well the workload activity meets its service objectives.

Workload Analyzer. Online data collection and display services used to analyze IMS workloads and determine problem causes.

workload definition. Workload created through the WKLIST view. Contains a unique name, a description, an initial status, a current status, and selection criteria by which address spaces are selected for inclusion in the workload. *See* Workload Definition Facility.

Workload Definition Facility. In MAINVIEW for OS/390, WKLIST view and its associated dialogs through which workloads are defined and service objectives set.

workload delay view. Tracks workload performance as the workload accesses system resources. A workload delay view measures any delay a workload experiences as it contends for those resources.

Workload Monitor. Online data collection services used to monitor IMS workloads and issue warnings when defined thresholds are exceeded.

workload objectives. Performance goals for a workload, defined in WKLIST. Objectives can include measures of performance such as response times and batch turnaround times.

Index

A

- adding samplers 287
- administrative views 285
- AOI request delays 69
- application
 - events by transaction 93
 - trace 101
- area views 195
- arrival rate 37

B

- BALG
 - processing
 - activity 44
 - delay 40
 - views 44
- BBFTWK00 BBPARM member 130

C

- CA-ACF2 293
- calls
 - DL/I 95
- CA-TOP SECRET 293
- changing
 - samplers 287
- class
 - database I/O delays 72
 - delays 34
 - I/O delay
 - data set 76
 - volume 80
 - latch delays 87
 - lock delays 84
 - occupancy 45
 - processing details 36
 - resource usage 34
 - usage statistics 35
 - views 45
 - workload 45
- command
 - execution delay 69
- composite name, workload group 129
- confidence level 63
- controlling
 - samplers 289
 - shared message queue data collection 291
- CPU
 - utilization 32
- CQS information views 265
- creating workload definitions 129
- cross-reference views 217
- CSQ information views 291

D

- data set
 - database I/O delays 72
 - I/O delays 75
 - by class 76
 - by IMS 76
 - by PSB 77
 - by transaction 77
 - by volume 78
 - trace log 102
- data sharing group
 - class occupancy 45
 - resource contention 151
 - analyzing 152
 - sysplex performance 49
 - views 51
- database
 - delays
 - intent 69
 - open 69
 - recovery control 69
 - I/O delays 63, 71, 75
 - by class 72
 - by data set 72
 - by IMS 73
 - by PSB 73
 - by transaction 74
 - by volume 74
- database activity views 237
- database monitors 123
- database views 203
- DB2
 - delay 69
 - events by transaction 92
- DB2 MPP and IFP monitors 113
- DBRC delay 69
- DBWP 70
- DEDB delay 69
- defaults
 - samplers 288
- defining workloads 129
- delays
 - AOI request 69
 - class 34
 - command 69
 - data set
 - I/O delay 75, 77
 - I/O delay by class 76
 - I/O delay by IMS 76
 - I/O delay by PSB 77
 - I/O delay by transaction 77
 - I/O delay by volume 78
 - data set I/O 63

delays (continued)

- database
 - I/O delay 71
 - I/O delay by class 72
 - I/O delay by data set 72
 - I/O delay by IMS 73
 - I/O delay by PSB 73
 - I/O delay by transaction 74
 - I/O delay by volume 74
- intent 69
- open 69
- database I/O 63
- DB2 69
- DBRC 69
- DEDB 69
- DMAC 69
- dynamic allocation 69
- Fast Path 69
- I/O 66
- IRLM 69
- latch 63, 67
 - by IMS 87
 - by transaction 88
 - delay by class 87
 - delay by PSB 88
- latches 58, 86
- lock 58, 68, 83
 - by class 84
 - by PSB 85
 - by transaction 85
- log buffer 69
- pool 63, 70
- resources 55
- transaction 55, 57, 63, 65
- views 55
- volume
 - I/O delay 79
 - I/O delay by class 80
 - I/O delay by data set 81
 - I/O delay by database 80
 - I/O delay by IMS 81
 - I/O delay by PSB 82
 - I/O delay by transaction 82
- volume I/O 63
- dependent region monitors 122
- detail trace 103, 108
- directory
 - trace 104
 - trace log data sets 102
- DL/I
 - calls
 - by transaction 95
 - events
 - by transaction 94
- DMAC delay 69
- DMBP 70

E

- Easy Menus 17–22
- elapsed time 63
- EMH messages 30
- ESM 293
- events
 - application 93
 - DB2 92
 - DL/I 94
 - DL/I calls 95
 - input queue 97
 - processing
 - transactions 91
 - processing components 89
 - ROLS 98
 - scheduling 99
 - sync point 96
- external security manager 293
- EZIFAST 17, 20
- EZIMS 17–19
- EZISSI 17, 19

F

- Fast Menu 17–22
- Fast Path
 - BALG views example 44
 - checking BALG service efficiency 39
 - DEDB area views 195–201
 - extended PCB pool monitor (EPCB) 124
 - identifying delays 69–85
 - MPP and IFP activity monitors 114
 - region activity view (IRGNFPLR) 149
 - region processing 40
- FPCB 70

G

- global region call monitors 114
- graph
 - view 29

H

- hyperlink 44
 - MAINVIEW for IMS views 12
 - to Object Easy Menus 21

I

- I#CDB2 113
- I#CIC 114
- I#OBAB 114
- I#PROC 115
- I#SDB2 113
- I\$CBMP 114
- I\$CDBT 114
- I\$CMPP 114
- I\$CTOT 114

I/O
 data set delays 75
 by class 76
 by IMS 76
 by PSB 77
 by transaction 77
 by volume 78
 database delays 71
 by class 72
 by data set 72
 by IMS 73
 by PBS 73
 by transaction 74
 by volume 74
 delays 58, 66
 volume delays 79
 by class 80
 by data set 81
 by database 80
 by IMS 81
 by PSB 82
 by transaction 82
 I@ELAP 115
 I@INPQ 115
 I@OBA 114
 I@PDB2 113
 I@RESP 115
 IARVBG 121
 IARVCL 121
 IARVPR 121
 IARVTR 121
 IBGSUM 44
 IBGSUMR 40, 44
 ICDLT 45
 ICIOP 124
 ICLDTL 45
 ICLSUGM 45
 ICLSUGMR 45
 ICLSUGS 45
 ICLSUGSR 45
 ICLSUM 45
 ICLSUMG 45
 ICLSUMGR 45
 ICLSUMM 45
 ICLSUMMR 45
 ICLSUMR 35, 45
 ICLSUMS 45
 ICLSUMSR 45
 ICSAUT 126
 ICWAP 124
 ID2CON 122
 ID2SON 122
 ID2THD 122
 IDABODTR 258
 IDABOSMR 262
 IDABVDTR 256
 IDABVSMR 260
 IDAGDTLR 241
 IDALGSMR 248
 IDALSUMR 248
 IDAPGSMR 250
 IDAPSUMR 250
 IDASDTLR 245
 IDASSUMR 243
 IDAVGSMR 254
 IDAVSUMR 254
 IDAXGSMR 252
 IDAXSUMR 252
 IDBDTLR 207
 IDBHIT 123
 IDBIO 123
 IDBMR 210
 IDBSTAR 209
 IDBSTL 123
 IDBSUMR 205, 208
 IDBTYPR 208
 IDBWP 124
 IDEADQ 120
 IDLDB 71
 IDLDBC 72
 IDLDBD 72
 IDLDBI 73
 IDLDBTR 74
 IDLDBV 74
 IDLDD 75
 IDLDDC 76
 IDLDDI 76
 IDLDDP 77
 IDLDDTR 77
 IDLDDV 78
 IDLIO 126
 IDLLH 86
 IDLLHC 87
 IDLLHI 87
 IDLLHP 88
 IDLLHTR 88
 IDLLK 83
 IDLLKC 84
 IDLLKI 84
 IDLLKP 85
 IDLLKTR 85
 IDLRPL 70
 IDLTR 58, 65
 IDLTRIO 66
 IDLTRLH 67
 IDTRLK 68
 IDLTROT 69
 IDLTRPL 70
 IDLVL 79
 IDLVLC 80
 IDLVLDB 80
 IDLVLDD 81
 IDLVLI 81
 IDLVLP 82
 IDLVLTR 82
 IDMBP 124
 IDPAGE 126
 IDSAP 124

IECSAU 126
 IEPCB 124
 IFCTR 89, 91
 IFCTR2 92
 IFCTRA 93
 IFCTRD 94
 IFCTRI 95
 IFCTRP 96
 IFCTRQ 97
 IFCTRR 98
 IFCTRS 99
 IFPDTLR 198
 IFPMR 201
 IFPORGR 199
 IFPSTAR 200
 IFPSUMR 197
 IHIOF 124
 IHPACC 123
 IHPHIT 123
 IHPSTL 123
 IINLK 119
 IINQBG 117
 IINQCL 117
 IINQTR 117
 IIQSCL 117
 ILAWT 124
 ILDLCK 127
 ILGMSG 118
 ILHELD 127
 ILKREQ 127
 ILKRGLST 155
 ILKRGSUM 153
 ILKRGWT 157, 162
 ILKRSLST 152, 160
 ILKRSSUM 158
 ILKR SWT 162
 ILSUSP 127
 ILWNUM 127
 IMAREAZ 111
 IMFSFD 116
 IMFSIO 116
 IMFSIR 116
 IMFSP 124
 IMON 110
 IMS
 class occupancy 45
 database I/O delays 73
 Easy Menu 17–21
 Fast Menu 17–21
 I/O delay
 data set 76
 volume 81
 latch delays 87
 Object Easy Menu 21–22
 product views 295
 Sysplex Easy Menu 19
 views 47
 IMS database activity views
 See database activity views
 IMS product views 295
 IMSDTL 47
 IMSDTLG 47
 IMSDTLGR 29, 47, 48
 IMSDTLR 47
 IMSplex System Manager (IPSM)
 description 3
 IMSPLG 49
 IMSPLGG 49
 IMSPLGGR 49
 IMSPLGR 49
 IMSPLM 49
 IMSPLMG 49
 IMSPLMGR 49
 IMSPLMR 49
 IMSPLS 49
 IMSPLSG 49
 IMSPLSGR 49
 IMSPLSR 49
 IMSPLX 49
 IMSPLXG 49
 IMSPLXGR 49, 50
 IMSPLXR 49
 IMWARN 111
 input queue
 events
 by transaction 97
 processing 52
 input queue monitors 117
 interface
 IPSM 13
 internals monitors 124
 interval 27
 workflow views 43
 IOBUFW 124
 IOCHKW 124
 IOQLKS 119
 IOQLN 120
 IOQLT 120
 IOQND 120
 IOTMADTLR 192
 IOTMASUM 187
 IOTMATRN 190
 IOUTLK 119
 IOUTLN 120
 IOUTLT 120
 IOUTND 120
 IPAGE 126
 IPGMR 213
 IPGSUMC 215
 IPGSUMCT 216
 IPGSUMR 214
 IPIENQ 124
 IPIPL 124
 IPOOLA 125
 IPOOLN 125
 IPOOLT 125
 IPRCBG 121
 IPRCCL 121

- IPRCPR 121
- IPRCTR 121
- IPRDDTL 297
- IPRDSUM 296
- IPSBP 125
- IPSBW 125
- IPSM 3, 13
 - user interface 13
- IPTBLK 127
- IQBLKS 118
- IQIO 118
- IQWAIT 118
- IRECA 125
- IRGNDLIR 141, 148
- IRGNDTLR 141, 146
- IRGNFPLR 141, 149
- IRGNMR 141, 150
- IRGNSUMR 141, 144
- IRGOCC 51
- IRGOCCG 51
- IRGOCCGR 51
- IRGOCCR 51
- IRGOVW 51
- IRGOVWR 51
- IRLM delay 69
- IRLM lock views
 - problem analysis 152
 - views 152–162
- IRLM monitors 127
- ISAMP 285
- ISAMPD 287
- ISAMPOP 289
- ISAMPOPD 290
- ISBUSE 123
- ISCHFL 121
- ISERV 110
- ISHMSG 118
- ISQDTLR 270
- ISQINR 275
- ISQNAMER 279
- ISQOUTR 277
- ISQQTAR 274, 276, 278
- ISQQTR 273
- ISQUERY parameter 291
- ISQSTAR 272
- ISQSTR 267, 271
- ISQSUMR 268
- ISYSIO 126
- ITALIST 102, 103
- ITAQUERY 103
- ITASUM 103, 107
- ITASUMZ 108
- ITPIPSUM 188
- ITPIPTRN 189
- ITRDTLR 39, 52
- ITRSUMR 38, 52
- IUDETAIL 171
- IULTERM 173
- IUMUSR 176

- IUNODE 175
- IUSERI 178
- IUSERS 180
- IUSERT 182
- IUSRMR 183, 281
- IUSTAT 168
- IVDBIO 123
- IVDBWR 123
- IVHIT 123
- IVSEND 127
- IWADIO 125
- IWKAP 125
- IWKLDDEF view 131
- IXDPSUMR 228
- IXDSUMR 227
- IXDTSUMR 230
- IXPDSUMR 223
- IXPSUMR 222
- IXPTSUMR 225
- IXRSUMR 221
- IXTDSUMR 235
- IXTPSUMR 233
- IXTSUMR 232

L

- latch
 - delays 58, 86
 - by class 87
 - by IMS 87
 - by PSB 88
 - by transaction 67, 88
- list
 - trace 103
- lock
 - delays 58, 83
 - by class 84
 - by PSB 85
 - by transaction 68, 85
- lock views
 - See* IRLM lock views
- log buffer delay 69

M

- MAINVIEW
 - hyperlink 12
 - views for IMS 12
 - windows mode
 - interface 13
- menu 17
- message queue monitors 118
- message sharing group
 - sysplex performance 49
- messages
 - EMH 39
 - queued 40
 - schedulable 37
- MFS monitors 116

- monitors
 - database 123
 - DB2 MPP and IFP activity 113
 - dependent regions 122
 - Fast Path resources 114
 - global region calls 114
 - in warning 111
 - input queue 117
 - internals 124
 - IRLM 127
 - list 110
 - message queue 118
 - MFS 116
 - MPP and IFP elapsed timing 115
 - MPP and IFP transactions 115
 - MSC links 119
 - OS/390 126
 - output queue 120
 - plot 112
 - scheduling 121
 - target area 111
 - target summary 110
- MPP and IFP elapsed timing monitors 115
- MSC link monitors 119

N

- none status 63
- N-way data sharing group
 - analyzing 152
 - resource contention 151

O

- Object Easy Menus 21–22
- occupancy
 - class 45
 - data sharing group 45
 - IMS 45
 - OS/390 45
 - region 51
- operations views 289
- OS/390
 - monitors 126
 - views 41
 - class occupancy 45
 - sysplex performance 49
- OTMA views 185
- output queue monitors 120

P

- paging
 - IMS 32
- PAS
 - sampler changes 287
- plot 112
- pool
 - delays 70

- Primary Option Menu 17
- problems
 - IRLM lock contention
 - analyzing 152
- processing events 55
 - application 93
 - component views 89
 - DB2 92
 - DL/I
 - by transaction 94
 - calls 95
 - input queue 97
 - ROLS 98
 - scheduling 99
 - sync point 96
 - transactions 91
 - views 89
- product address space
 - sampler changes 287
- product interface 13
- product views 295
- program views 211
- PSB 70
 - database I/O delays 73
 - I/O delay
 - data set 77
 - volume 82
 - latch delays 88
 - lock delays 85

Q

- query
 - trace 102, 103

R

- RACF 293
- realtime 27
 - workflow views 43
- recovery control 69
- region
 - availability 32
 - Fast Path 40
 - occupancy 32, 51
 - views 51
 - processing summary 51
 - views 51
- region views 141
- resource
 - contention 151
 - delays 55
 - IPSM, securing 293
 - usage 32, 49
- response time 57
 - processing events 89
- ROLS events, by transaction 98

S

- samplers
 - adding 287
 - changing 285, 287
 - controlling 289
 - defaults 288
 - setting 285
- schedulable messages 37
- scheduling 37
 - events
 - by transaction 99
- scheduling monitors 121
- security 293
- selecting trace data 103
- SERDEF 293
- SERDEFE 294
- service-level objectives 129
- setting samplers 285
- skeleton tailoring
 - defined 309
- summary 103
- summary trace 103, 107
- sync point
 - events
 - by transaction 96
- syntax notation xxiii
- sysplex 27
 - Easy Menu (EZISSI) 19
 - performance
 - data sharing group 49
 - IMS 49
 - message sharing group 49
 - OS/390 49
 - views 49, 141, 153, 155
 - for analyzing resource contention 152
 - IRLM lock 151
 - terminal and user status views 163

T

- target system
 - sampling 285
- throughput views 27
- trace 60, 101
 - data selection 103
 - detail 103, 105, 108
 - directory 102, 104
 - entries 103
 - list 103
 - log data set 102
 - query 102, 103, 106
 - summary 107
- transaction
 - database I/O delays 74
 - by class 72
 - by data set 72
 - by IMS 73
 - by PSB 73
 - by volume 74

- transaction (continued)
 - delays 63
 - elapsed time 63
 - EMH 44
 - flow 57
 - latch delays 88
 - lock delays 85
 - processing
 - events 55, 91
 - views 27, 55
 - response time views 55
 - scheduling 37
 - trace 101
 - views 52
- transaction monitors 115

U

- user interface 13

V

- views
 - administrative 285
 - BALG 44
 - class 45
 - data sharing 51
 - delays 55
 - graph 29
 - IMS 47
 - IMS products 295
 - IRLM lock 151
 - operations 289
 - OS/390 41
 - OTMA 187, 192
 - processing events 89
 - product 295
 - region 51
 - response time 89
 - sysplex 49, 141, 153, 155, 157, 163
 - terminal and user status 163
 - transaction 52
 - delays 63
 - processing events 27
 - response 55
 - types 27, 55
 - user and terminal status 163
 - workflow 27
- volume
 - database I/O delays 74
 - I/O delays 79
 - by class 80
 - by data set 81
 - by database 80
 - by IMS 81
 - by PSB 82
 - by transaction 82

W

workflow

- analysis 29

- views 27

workload

- definitions 129

- objectives 129

STOP!

IMPORTANT INFORMATION - DO NOT INSTALL THIS PRODUCT UNLESS YOU HAVE READ ALL OF THE FOLLOWING MATERIAL

By clicking the YES or ACCEPT button below (when applicable), or by installing and using this Product or by having it installed and used on your behalf, You are taking affirmative action to signify that You are entering into a legal agreement and are agreeing to be bound by its terms, EVEN WITHOUT YOUR SIGNATURE. BMC is willing to license this Product to You ONLY if You are willing to accept all of these terms. CAREFULLY READ THIS AGREEMENT. If You DO NOT AGREE with its terms, DO NOT install or use this Product; press the NO or REJECT button below (when applicable) or promptly contact BMC or your BMC reseller and your money will be refunded if by such time You have already purchased a full-use License.

SOFTWARE LICENSE AGREEMENT FOR BMC PRODUCTS

SCOPE. This is a legally binding Software License Agreement ("**License**") between You (either an individual or an entity) and BMC pertaining to the original computer files (including all computer programs and data stored in such files) contained in the enclosed Media (as defined below) or made accessible to You for electronic delivery, if as a prerequisite to such accessibility You are required to indicate your acceptance of the terms of this License, and all whole or partial copies thereof, including modified copies and portions merged into other programs (collectively, the "**Software**"). "**Documentation**" means the related hard-copy or electronically reproducible technical documents furnished in association with the Software, "**Media**" means the original BMC-supplied physical materials (if any) containing the Software and/or Documentation, "**Product**" means collectively the Media, Software, and Documentation, and all Product updates subsequently provided to You, and "**You**" means the owner or lessee of the hardware on which the Software is installed and/or used. "**BMC**" means BMC Software Distribution, Inc. unless You are located in one of the following regions, in which case "BMC" refers to the following indicated BMC Software, Inc. subsidiary: (i) Europe, Middle East or Africa --BMC Software Distribution, B.V., (ii) Asia/Pacific -- BMC Software Asia Pacific Pte Ltd., (iii) Brazil -- BMC Software do Brazil, or (iv) Japan -- BMC Software K.K. If You enter into a separate, written software license agreement signed by both You and BMC or your authorized BMC reseller granting to you the rights to install and use this Product, then the terms of that separate, signed agreement will apply and this License is void.

FULL-USE LICENSE. Subject to these terms and payment of the applicable license fees, BMC grants You this non-exclusive License to install and use one copy of the Software for your internal use on the number(s) and type(s) of servers or workstations for which You have paid or agreed to pay to BMC or your BMC reseller the appropriate license fee. If your license fee entitles You only to a License having a limited term, then the duration of this License is limited to that term; otherwise this License is perpetual, subject to the termination provisions below.

TRIAL LICENSE. If You have not paid or agreed to pay to BMC or your BMC Reseller the appropriate license fees for a full use license, then, **NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THIS LICENSE:** (i) this License consists of a non-exclusive evaluation license ("Trial License") to use the Product for a limited time ("Trial Period") only for evaluation; (ii) during the Trial Period, You may not use the Software for development, commercial, production, database management or other purposes than those expressly permitted in clause (i) immediately above; and (iii) your use of the Product is on an **AS IS** basis, and **BMC, ITS RESELLERS AND LICENSORS GRANT NO WARRANTIES OR CONDITIONS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) TO YOU AND ACCEPT NO LIABILITY WHATSOEVER RESULTING FROM THE USE OF THIS PRODUCT UNDER THIS TRIAL LICENSE.** If You use this Product for other than evaluation purposes or wish to continue using it after the Trial Period, you must purchase a full-use license. When the Trial Period ends, your right to use this Product automatically expires, though in certain cases You may be able to extend the term of the Trial Period by request. Contact BMC or your BMC reseller for details.

TERM AND TERMINATION. This License takes effect on the first to occur of the date of shipment or accessibility to You for electronic delivery, as applicable (the "**Product Effective Date**"). You may terminate this License at any time for any reason by written notice to BMC or your BMC reseller. This License and your right to use the Product will terminate automatically with or without notice by BMC if You fail to comply with any material term of this License. Upon termination, You must erase or destroy all components of the Product including all copies of the Software, and stop using or accessing the Software. Provisions concerning Title and Copyright, Restrictions (or Restricted Rights, if You are a U.S. Government entity) or limiting BMC's liability or responsibility shall survive any such termination.

TITLE AND COPYRIGHT; RESTRICTIONS. All title and copyrights in and to the Product, including but not limited to all modifications thereto, are owned by BMC and/or its affiliates and licensors, and are protected by both United States copyright law and applicable international copyright treaties. You will not claim or assert title to or ownership of the Product. To the extent expressly permitted by applicable law or treaty notwithstanding this limitation, You may copy the Software only for backup or archival purposes, or as an essential step in utilizing the Software, but for no other purpose. You will not remove or alter any copyright or proprietary notice from copies of the Product. You acknowledge that the Product contains valuable trade secrets of BMC and/or its affiliates and licensors. Except in accordance with the terms of this License, You agree (a) not to decompile, disassemble, reverse engineer or otherwise attempt to derive the Software's source code from object code except to the extent expressly permitted by applicable law or treaty despite this limitation; (b) not to sell, rent, lease, license, sublicense, display, modify, time share, outsource or otherwise transfer the Product to, or permit the use of this Product by, any third party; and (c) to use reasonable care and protection to prevent the unauthorized use, copying, publication or dissemination of the Product and BMC confidential information learned from your use of the Product. **You will not export or re-export any Product without both the written consent of BMC and the appropriate U.S. and/or foreign government license(s) or license exception(s).** Any programs, utilities, modules or other software or documentation created, developed, modified or enhanced by or for You using this Product shall likewise be subject to these restrictions. BMC has the right to obtain injunctive relief against any actual or threatened violation of these restrictions, in addition to any other available remedies. Additional restrictions may apply to certain files, programs or data supplied by third parties and embedded in the Product; consult the Product installation instructions or Release Notes for details.

LIMITED WARRANTY AND CONDITION. If You have purchased a Full-Use License, BMC warrants that (i) the Media will be, under normal use, free from physical defects, and (ii) for a period of ninety (90) days from the Product Effective Date, the Product will perform in substantial accordance with the operating specifications contained in the Documentation that is most current at the Product Effective Date. BMC's entire liability and your exclusive remedy under this provision will be for BMC to use reasonable best efforts to remedy defects covered by this warranty

and condition within a reasonable period of time or, at BMC's option, either to replace the defective Product or to refund the amount paid by You to license the use of the Product. BMC and its suppliers do not warrant that the Product will satisfy your requirements, that the operation of the Product will be uninterrupted or error free, or that all software defects can be corrected. This warranty and condition shall not apply if: (i) the Product is not used in accordance with BMC's instructions, (ii) a Product defect has been caused by any of your or a third party's malfunctioning equipment, (iii) any other cause within your control causes the Product to malfunction, or (iv) You have made modifications to the Product not expressly authorized in writing by BMC. No employee, agent or representative of BMC has authority to bind BMC to any oral representations, warranties or conditions concerning the Product. **THIS WARRANTY AND CONDITION IS IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS. THERE ARE NO OTHER EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THIS LICENSE OR ANY PRODUCT LICENSED HEREUNDER. THIS PARAGRAPH SHALL NOT APPLY TO A TRIAL LICENSE.** Additional support and maintenance may be available for an additional charge; contact BMC or your BMC reseller for details.

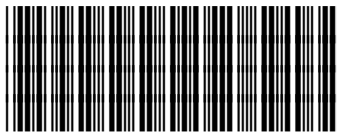
LIMITATION OF LIABILITY. Except as stated in the next succeeding paragraph, BMC's and your BMC reseller's total liability for all damages in connection with this License is limited to the price paid for the License. **IN NO EVENT SHALL BMC BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL, PUNITIVE OR INDIRECT DAMAGES OF ANY KIND ARISING OUT OF THE USE OF THIS PRODUCT (SUCH AS LOSS OF PROFITS, GOODWILL, BUSINESS, DATA OR COMPUTER TIME, OR THE COSTS OF RECREATING LOST DATA), EVEN IF BMC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.** Some jurisdictions do not permit the limitation of consequential damages so the above limitation may not apply.

INDEMNIFICATION FOR INFRINGEMENT. BMC will defend or settle, at its own expense, any claim against You by a third party asserting that your use of the Product within the scope of this License violates such third party's patent, copyright, trademark, trade secret or other proprietary rights, and will indemnify You against any damages finally awarded against You arising out of such claim. However, You must promptly notify BMC in writing after first receiving notice of any such claim, and BMC will have sole control of the defense of any action and all negotiations for its settlement or compromise, with your reasonable assistance. BMC will not be liable for any costs or expenditures incurred by You without BMC's prior written consent. If an order is obtained against your use of the Product by reason of any claimed infringement, or if in BMC's opinion the Product is likely to become the subject of such a claim, BMC will at its option and expense either (i) procure for You the right to continue using the product, or (ii) modify or replace the Product with a compatible, functionally equivalent, non-infringing Product, or (iii) if neither (i) nor (ii) is practicable, issue to You a pro-rata refund of your paid license fee(s) proportionate to the number of months remaining in the 36 month period following the Product Effective Date. This paragraph sets forth your only remedies and the total liability to You of BMC, its resellers and licensors arising out of such claims.

GENERAL. This License is the entire understanding between You and BMC concerning this License and may be modified only in a mutually signed writing between You and BMC. If any part of it is invalid or unenforceable, that part will be construed, limited, modified, or, severed so as to eliminate its invalidity or unenforceability. This License will be governed by and interpreted under the laws of the jurisdiction named below, without regard to conflicts of law principles, depending on which BMC Software, Inc. subsidiary is the party to this License: (i) BMC Software Distribution, Inc. - the State of Texas, U.S.A., (ii) BMC Software Distribution, B.V. - The Netherlands, (iii) BMC Software Asia Pacific Pte Ltd. -- Singapore (iv) BMC Software do Brazil -- Brazil, or (v) BMC Software K.K. -- Japan. Any person who accepts or signs changes to the terms of this License promises that they have read and understood these terms, that they have the authority to accept on your behalf and legally obligate You to this License. Under local law and treaties, the restrictions and limitations of this License may not apply to You; You may have other rights and remedies, and be subject to other restrictions and limitations.

U.S. GOVERNMENT RESTRICTED RIGHTS. UNPUBLISHED -- RIGHTS RESERVED UNDER THE COPYRIGHT LAWS OF THE UNITED STATES. Use, duplication, or disclosure by the U.S. Government is subject to restrictions set forth in FAR Section 52.227-14 Alt. III (g)(3), FAR Section 52.227-19, DFARS 252.227-7014 (b) or DFARS 227.7202, as amended from time to time. Contractor/Manufacturer is BMC Software, Inc., 2101 CityWest Blvd., Houston, TX 77042-2827, USA. Any contract notices should be sent to this address.

Notes



100042306